



Ambient Light Guiding System for the Mobility Support of Elderly People

Dissemination plan

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Preface

This document forms part of the Research Project “Ambient Light Guiding System for the Mobility Support of Elderly People (Guiding Light)” funded by the Ambient Assisted Living Joint Programme (AAL-JP) as project number AAL 2011-4-033. The Guiding Light project will produce the following Deliverables (Documents in bold letters have already been finished):

D1.1 Medical, psychological, and technological framework

D2.1 Applicable hardware components

D2.2 Applicable software components

D3.1 Solution package description

D3.2 Implementation report

D4.1 Communication strategy

D4.2 Stakeholder management report

D5.1 Field test report

D6.1 Report on market analysis

D6.2 Dissemination plan

D6.3 Final business plan

D7.1 Consortium Agreement

D7.2 Periodic activity and project management report

D7.3 Final report

The Guiding Light project and its objectives are documented at the project website www.guiding-light.labs.fhv.at. More information on Guiding Light and its results can also be obtained from the project consortium:

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1. Preface

This report describes the planned dissemination activities of the Guiding Light project. It presents the overall project dissemination plan, explains some of the tools and techniques deployed to facilitate dissemination, and introduces some of the dissemination activities that have already occurred or are planned. A managed dissemination policy is highly important for reaching long-term project targets, i.e. the market introduction of Guiding Light. This dissemination plan describes our goals that should be reached with the information policy, thus reporting on news, events, project and R&D progress.

Furthermore, information policy helps improving the collaboration and getting project overviews. To reach the awareness level intended, dissemination will be supported by communication materials, such as a website, newsletters, leaflets and posters. Important are also good, long-term relations to national and local media. In addition to this, project members will participate at conferences and workshops, and such activities will also be arranged within the project. A graphical identity will be created, with logo and templates for text documents and presentations.

In creating a dissemination plan, we consider following key questions (see Yale Center for Clinical Investigation):

- Goal: What are the goals and objectives of the dissemination effort? What impact do you hope to have?
- Audience: Who is affected most by this research? Who would be interested in learning about the study findings? Is this of interest to a broader community?
- Medium: What is the most effective way to reach each audience? What resources does each group typically access?
- Execution: When should each aspect of the dissemination plan occur (e.g. at which points during the study and afterwards)? Who will be responsible for dissemination activities?

2. Project facts

The project facts are used for dissemination in different forms (fact sheet in presentations, supplement for press kit etc.) and shows our project data in a format which emphasizes all formal criteria concisely.

Name of project: Ambient Light Guiding System for the Mobility Support of Elderly People
Acronym: Guiding Light
Number: AAL-2011-4-033
Website: guiding-light.labs.fhv.at
Length of the project and starting date: 36 month, May 1, 2012 – April 30, 2015
Coordinator organization: University of Applied Sciences Vorarlberg (A)

2.1 Partners

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Ambient Assisted Living Joint Programme (AAL JP) is an Article 185 Initiative in the 7. EU-Research-Programme. The focus of the AAL JP is centered on the development of products and services based on information and communication technologies. These innovative developments are meant to guarantee a long and independent life in private surroundings. The 4th announcement of the AAL JP is focused on "ICT-based Solutions for Advancement of Older Persons' Mobility" and aims at an improvement of indoor mobility and outdoor mobility.

2.1 Dissemination Objective

The aim of Guiding Light is to improve mobility of older persons by means of behavior-modifying light interventions. Mobility promotes healthy aging as it relates to the basic human need for physical movement. Within our project, mobility is defined as locomotion of people regarding spatio-temporal parameters of daily living (e.g. swap from living room to kitchen at around 11am). For most humans, the typical mode of locomotion is to walk from one place to the other. Low mobility levels refer to people, who stay within the same area (or 'room zone') most of the time. High mobility levels refer to people, who change their localization several times a day, i.e. who spend time in different room zones or outside of their apartment.

But mobility does not only mean that a person shifts between different room zones. In addition to variability of localization, it is equally important to focus on whether mobility is directed (instead of wandering restlessly around, for instance). In our context, directed mobility means that a person consistently follows his or her individual daily structure (represented in terms of spatio-temporal parameters), which is not dysfunctional in accordance to health science advice. At the beginning of the Guiding Light intervention, we thus define a functional daily structure together with each individual end user and related secondary end users.

The aim of our lighting intervention is to support the desired daily structure by providing ideal lighting conditions to the senior residents, thus improving for instance sleep quality, or enhancing the drive to go for a walk, which also influence a person's mobility directly. Furthermore, everyday activities like reading or cooking are also supported by optimal lighting, taking into account the higher need for light of elderly people.



Figure 1. Basic idea of behavior-modifying light interventions.

The figure above illustrates an example: At half past one, the presence of a senior inhabitant is detected within his or her apartment. At half past two, Guiding Light starts the task light of a predefined room zone, where the inhabitant typically stays during this time until half past three (e.g. in the reading chair). If the inhabitant is not in this zone at half past two, the system recognizes an exception from the typical daily structure. In case of repeatedly exceptions for several days, Guiding Light will change lighting parameters such as switch on time, light intensity and light color. On the other hand, if the senior resident is in this area until half past three, the system recognizes the repetition of the daily structure. At a quarter to seven, the Guiding Light task light illuminates a new room zone according to the typical daily structure of the senior (e.g. in the kitchen). Again, if the inhabitant is not in the assumed room zone at this moment, the system recognizes another exception from the typical daily structure. which is not the case at eight o'clock, when inhabitant stays in the room zone according to his typical daily structure.

Each room (bedroom, bathroom, and living room) has a presence controlled ambient room lighting component which ensures a very uniform illumination of the whole room (up to 300 lux horizontal illuminance at the floor). Additional, at specific room zones with typical daily activities and with increased visual demands a special task light will be installed, which creates a glare-free illumination with up to 2000 lux. The light color of all lamps changes gradually from 2200 Kelvin to 4000 Kelvin during the day according to the individual sleep-wake time of the elderly. Illuminance values are based by the latest scientific findings of the needs of elderly people. Selected light color stabilizes the circadian rhythm.

Mobility monitoring is accomplished with passive-infrared-sensors, installed in each relevant room zone. Basically, presence of a person is localized in those room zones where PIR-sensors are triggered by body motion. In some cases, however, this interpretation of presence is not correct because PIR-sensors do not send a presence telegram if a person stands still in the field of view for a prolonged period of time. Therefore, Guiding Light includes an advanced logic for the detection of presence, staying outside of the apartment, and multi-person presence.

Guiding Light will consist of modular and open hardware and software architecture that makes it easy to integrate it in different building management systems and general assistive environments, either as a stand-alone product or as an add-on for already existing systems. A cable-based solution, as well as a wireless solution, are available. In the latter case, sensors, switches and lightings are connected via an EnOcean gateway with a central processing unit on a cloud server. If radio technology does not work properly, cable-based bus systems (e.g. KNX EIB and DALI) are used instead, including a local home automation server.

Guiding Light allows individual and easy-to-use control from different user interfaces (e.g. touch screen panels, handheld or desktop computer) and allows selected remote access to a limited number of persons via the internet (e.g. family members, caregivers, physician). Software

applications allow for a monitoring of the senior resident's mobility patterns for secondary as well as primary end users, and a light management system for care experts.

3. Target Groups of Dissemination

The Guiding Light consortium identified a lot of different target groups and organizations which will be affected or can be affected by our lighting solution for older people (see Figure 2). In the following section we describe six main stakeholder groups susceptible to be interested in information about the activities within our project. Each target group will be addressed through different approaches and tools. The advantages of the developed AAL solution ('Guiding Light') must be demonstrated with different focuses, since different interests exist.



Figure 2. Result from the collection of target groups of Guiding Light.

The central target or interest groups will be described in the following sections, as well as keywords, which are regarded to be helpful for dissemination. The most important interest groups for the Guiding Light project were defined during a consortium meeting in June 2012: After discussing the characteristics and the benefit of the lighting system with regard to market aspects, we collected all of the potential stakeholders in a guided brainstorming session (see Figure 2). The collected interest groups were then evaluated in terms of an interest/power-grid (see Figure 3) to prioritize dissemination activities.

The collection of the stakeholders is designated to generate the maximum reach of the results in each phase of the project. In doing so, the dissemination efforts in the early and intermediate development phases aim to generate attention of project activities and results among potentially interested parties.



Figure 3. Result from the prioritization of target groups of Guiding Light.

The objective of the corresponding public relations is also to gain a target-group orientated distribution of the results of the project by a precise definition of the individual target groups (achieving a high and sustainable recognition as well as a preferably wide integration of relevant target groups).

3.1. Senior Citizens

The Guiding Light System is primarily applicable to elderly people (aged 50+), who live on their own and either want to maintain or improve their current standard of mobility. Taking into account the fact that the de facto mobility depends on mobility requirements, such as distances between relevant destinations (e.g. dining table, shops, doctor's), available means of transport (e.g. personal car) and general services (e.g. delivery service), with Guiding Light these people get:

- _ increased physical and spatial mobility
- _ support with the increase of vitality
- _ extern time emitter
- _ improvement of the spatial image
- _ support with temporal and spatial orientation
- _ an increased sense of security to better orientate themselves spatially and to avoid falling

The main users may already be limited in their mobility or have limitations in the reported mobility requirements. Guiding Light is not applicable to people with serious diseases or intensive medication which do not allow an independent lifestyle anymore. These include serious illnesses like for example epilepsy, pronounced derangement of memory (e.g. severe dementia), severe emotional disturbances (e.g. severe depression), severe movement disorders (e.g. substantially reduced body balance), severe physical disabilities (e.g. people with complete impaired mobility), indispensable comprehensive support with daily activities, intensive medication like for example high-dose psych pharmaceutical medication or extreme sensory disturbances (e.g. pronounced cataract).

Guiding Light can be installed in already existing and inhabited flats to rent or owner occupied flats (e.g. a multiparty-house or a dwelling house) as well as in such flats which are to be newly established and moved in. Ideally, there are more living zones in the apartment (e.g. kitchen zone, living and working areas, bedroom, bathroom / toilet). The end-users must have the willingness and the possibilities to install, arrange or fix new controllable lamps on the ceiling, standing or table luminaires, linked space sensors to record relevant daily activities, an automatic room lighting system with a data server respectively a PC with Internet access. They also have, under certain circumstances, to be prepared to carry a cable-free monitoring system on their body to capture the mobility and exposure to light.

It is necessary to point out the individual value of use of Guiding Light for senior citizens, to take away their potential fears of surveillance and to personally reply to individual questions. The test subjects will be looked after on-site by a certain person.

3.2. Care givers

Those groups of persons which want to influence the well-being of the primary end users within the framework of their direct contact, have an adequate measure for the maintenance and improvement of the mobility of senior citizens with Guiding Light. There are family members, (ambulatory) health care personnel, doctors, pharmacists or similar, who use Guiding Light mainly for the monitoring of the dimension respectively the change of mobility. The information will assist them with the support of the elderly people which are entrusted to them.

With Guiding Light you receive:

- _ Information for the adaption of (further) measures
- _ Preparation of the face-to-face contact with senior citizens
- _ Addition of further measures
- _ Configuration of Guiding Light
- _ Improvement of care possibilities
- _ Agreement with other care givers
- _ Planning of the direct contacts with senior citizens
- _ Confidence with regard to the well-being of the persons cared for
- _ Certitude regarding further proceedings
- _ Relief of burdening thoughts
- _

Senior citizens decide on their own, which persons of the interest group of the care givers will get access to the recorded mobility data. The care givers form part of the social environment of the senior citizens, they guarantee first level support towards the primary end users. The value of use of this new way of living with Guiding Light has to be pointed out for care givers and the significance of the technique for optimized care has to be demonstrated.

3.3. Implementers

This interest group consists of planners, manufacturers and sustainers of residential buildings, in which Guiding Light is implemented, like for example decision-makers for new residential premises (municipalities, cities, local districts), manufacturers of residential premises (developers, construction companies, property developers etc.), operators of residential premises (housing cooperatives, real-estate companies, social services, nursing home operators etc.), planners of living space (architects, living space adapters etc.) sustainers of building installations (electricians, telecommunications companies etc.), maintenance staff (caretaker, property manager etc.) and persons who attend trainings about Guiding Light.

They achieve added value via better services, of which the unique selling point with Guiding Light has to be established, amongst others, through supply-demand analyses. For them information material and, as may be the case, courses have to be developed, so that their sales employees can for example address potential clients in a direct way and make offers to them. They guarantee second level support towards the secondary end users.

The interdependences among stakeholders are equally important. The municipal council votes to construct a new institution for senior citizens and charges a developer with the construction of the building, in consultation with the social services of the municipality and specialized experts. The municipality makes decisions about additional investments (e.g. Guiding Light). Contact persons for the specialized experts are the social services. Social services (e.g. Sophia) also care for home cleaning, errands, meals services etc.. A procedural curator/procurator has for example the task to represent the interests of the persons cared for before the court and at offices. In this case it can for example come to a decision, if an elderly person may or has to be fixed or if Guiding Light may be used instead and the person therefore will still be able to move relatively freely. Guiding Light may be marketed in the same way as other medical devices. Guiding Light has to be sold with additional services (nursing, planning and installation).

Developers and housing cooperatives, on the other hand, can possibly not charge the additional costs of Guiding Light, but they have an interest in a stay of tenants that is as long as possible. Hence they often wait for the demand of the market first. There are different market experiences with AAL-technologies among the project partners. It can partly not be sold in spite of showcases, on the other hand there are also innovative developers who are interested in new techniques and whose information events are well attended. For health insurance funds there exist individual rules for what is refunded (very heterogeneous and apparently random). Compulsory insurance for its part tries to save costs since rule achievements are already expensive, then again, with increasing complexity, the system gets more expensive. Should therefore also higher stakeholder-levels be contacted?

The market for apartment reconstruction seems to be significantly higher than the market for new housing construction. The only question is whether the complete revitalization of a building is included in the process of reconstruction or new construction.

There are funding programs for measures of reconstruction for the enhancement of energy efficiency and eventually also for measures of reconstruction for the improvement of age appropriate accessibility. The reconstruction is supported by the objective to enable elderly people to live in their own homes for as long as possible, since they apparently are often not prepared to move. In this case it should be possible to post-install Guiding Light (e.g. radio solution) easily. However, a trend towards new construction/relocation is discernible, for example to provide more living space for the children, the apartment might be too big after the death of a partner, and this might be a good opportunity to leave the past behind and to begin a new phase in life, too. In case of new construction a cable-based building can be installed in parallel with traditional building services.

3.4 Financiers

An attractive financing model should be developed for Guiding Light, so that also private persons (e.g. senior citizens or their family members) are able to pay for the system. Guiding Light can also be co-financed by insurer and health insurance funds. Sole financiers can be won by scientific evidence amongst others. Exclusive financiers primarily generate additional value via possible financial profits by Guiding Light. These should be detected by analyses of their business models for example. They get into contact with implementers for instance within the framework of trade fairs and demonstration projects. Clients, i.e. financiers, converters and secondary end users, play a decisive role when it comes to decisions about the procurement of Guiding Light. All interest groups should therefore have immediately perceptible advantages of the possession of Guiding Light. Therefore the societal value in use (qualitative, quantitative) of a longer lasting self-determined life with the aid of Guiding Light should be emphasized towards politicians and stakeholders. The economic value in use of AAL-technologies should be pointed out towards the insurance companies.

3.5 Competitors

Partners/competitors generate additional value about the generated knowledge in the project, possibilities of a collective marketing amongst others which should be determined via state-of-the-art analyses in the scientific community. In this regard specific partnerships should be entered to support each other. Written publications and conference contributions should be coordinated with the project partners in advance.

3.6. General Public

The possibilities of Guiding Light should also be communicated to the general public (maintenance and improvement of mobility, see point 1.3.1). Not only the individual, but also the economic value in use of Guiding Light should be emphasized. The general public will be invited to visit demonstration apartments. Potential fears of surveillance should be taken away from them. The contents of the project will be made quickly and transparently accessible (e.g. via Internet).

For journalists a kick-off-press conference shall be held. All project partners will use their communication-networks to local media. Questions will not be answered before an intern consensus was formed. If necessary, a “press spokesman“ will be nominated.

4. Dissemination tools, instruments, and activities

As a first step of dissemination activity we have generated a corporate identity including a corporate design for all dissemination tools, instruments (website, folder, handouts, powerpoint slides, project documentation etc.), and activities (wording, pictures, communication guidelines etc.). On this basis have developed a website as well as an image folder. Content will be general project information, in-depth project documentation during the project progress as well as results of different work packages.

Within the next step we will conduct editorial services for specific target groups as well as selection and preparation of dissemination instruments, e.g. website, folder, diagrams, reports, articles, radio, tv etc.) for specific dissemination. This includes an orientation toward the needs of the audience, using appropriate language and information levels as well as various dissemination methods: written text including illustrations, graphs and figures; electronic and web-based tools; and oral presentations at community meetings and scientific conferences. Furthermore, we practice broad-band communication and political lobbying working with press and specific stakeholders (e.g. press release, articles, discussion with experts and opinion leaders, events, trade-show booth, electronic newsletter, YouTube videos, meetings with politicians). Public relation will be supported by means of media and communication channels of project members, consortium partners, and disseminators.

An important step of dissemination plan is to enlarging the circle of stakeholders involved in the exchange of good practices, capacity-building and training activities and the development of guidelines and to engaging the whole range of stakeholders. This includes courses for tertiary education sector (e.g. study courses at FHV or BLL light design academy) as well as applied workshops (e.g. form APOLLIS and YOUSE), where we will communicate results from our project. In the first case target groups are engineers (computer scientists and lighting designers) as well as experts from social work, in the second case care personell, electricians etc. Additionally, all partners will link their portfolio that concerns to Guiding Light with international websites.

4.1. Dissemination instruments

Central information platform: all data exchange within project team takes place on our

Confluence information platform with keyword safe access:

<http://uctprojects.labs.fhv.at/display/gl/Home>

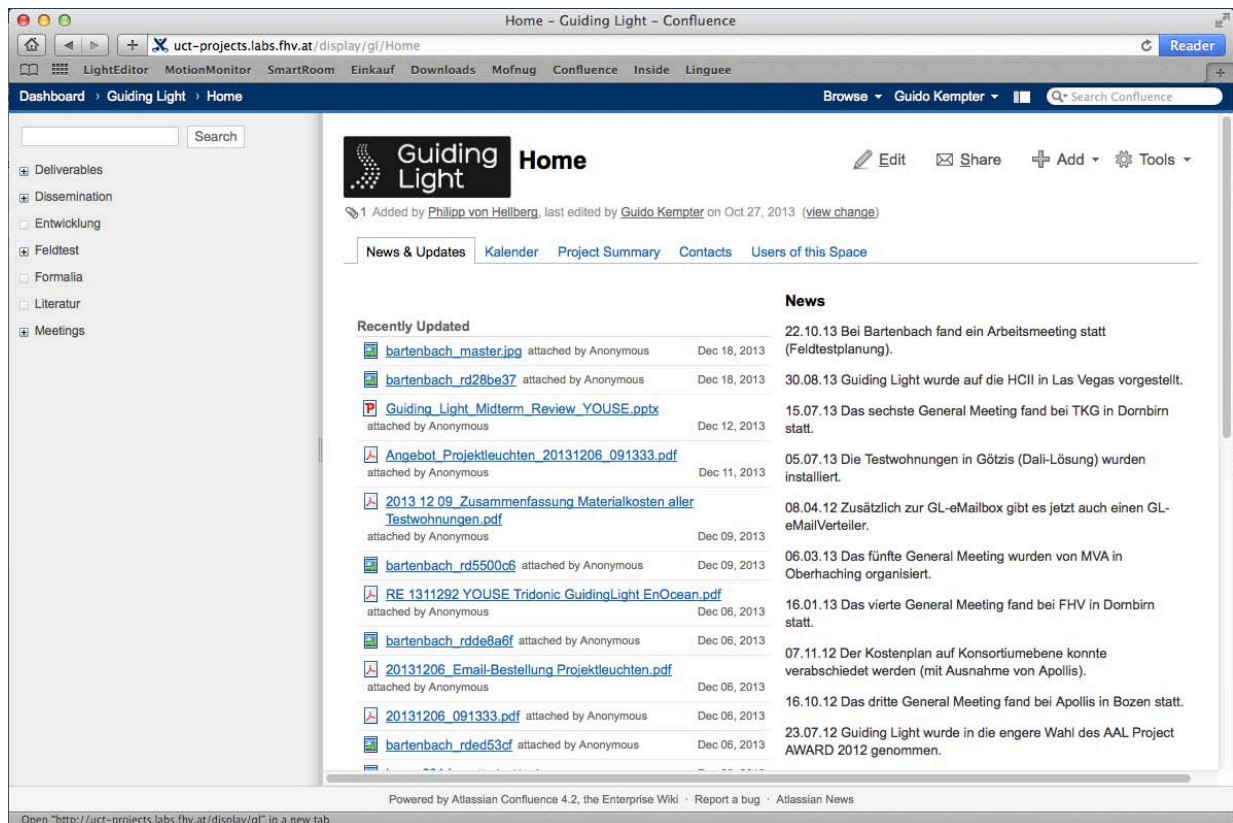


Figure 3. Guiding Light information platform.

Logo: The building of the project's image started with the design of a distinctive logo. This logo will be included in the design and production of Guiding Light website, leaflets, and in all the public communication material produced by the consortium. Our logo is iconographically designed with relation to the topic of our project.



Figure 4. Guiding Light Logos

Acronym: Guiding Light

Corporate Wording: we will use the following German and English terms for our product: Guiding Light; Intelligent Lichtassistenzsystem - Intelligent Lighting Assistance; Ambientes Lichtleitsystem - Ambient Light Wayguidance System

Exhibition presence: project partners adopt a coordinated approach for their presence on relevant trade fairs (e.g. RehaCare, Medica, Light & Building, OrgaTec Cologne).

Project Fact Sheet: see annex

Project Fact Slides: see <http://uct-projects.labs.fhv.at/display/gl/Home>

Press release: for selected events (e.g. kick-off) we issue press release and send them to press agencies by means of newsletters and mailing lists; we will show them on our website too.

Pictures: we will provide the project team with picture, photos etc. on our Confluence information platform in order to be used for public relation activities; see <http://uct-projects.labs.fhv.at/display/gl/Home>



Figure 5. Example pictures of Guiding Light.

Organizing conferences: during project duration the consortium organizes one conference per year where Guiding Light plays a major role (FHV, YOUSE and APOLLIS are responsible for this task). FHV is planning the 12th Usability Day relating to Guiding Light.

Papers and articles: all project members try to publish at least one paper per year such as scientific papers, technical reports or care and nursing science papers. The following journals will be focused: Zeitschrift für Arbeitswissenschaft (specific topics), Journal Applied Ergonomics, Journal Advances in Human Factors/Ergonomics, Journal Building and Environment, Journal of Lighting Engineering, Zeitschrift Technische Sicherheit, Zeitschrift LICHT, Journal Lighting Research and Technology, Fachzeitschrift Umweltmedizin in Forschung und Praxis, Journal of Biological Rhythms, Journal of Circadian Rhythms, Journal of Environmental Psychology, Procedia - Social and Behavioral Sciences, SpringerPlus Open Journal, Zeitschrift für Gerontologie und Geriatrie, Zeitschrift für Gerontopsychologie & -psychiatrie, Zeitschrift für Arbeits- und Organisationspsychologie, Zeitschrift für Gesundheitspsychologie, Schriftenreihe design2product, Journal of Experimental Psychology

Contributions to conferences: all project members try to contribute at least one paper per year to selected conferences. The following conferences will be focused: AAL Forum (paper already contributed), Deutscher AAL Kongress (paper already contributed), Society for Light Treatment and Biological Rhythms Annual Meeting, ITG Gemeinschaftstagung, Licht und Gesundheit, GfA Frühjahrskongress, IES Light + Seniors, Alzheimer Tagung, Deutscher Geriatriekongress, Österreichischer Geriatriekongress, DIN Expertenforum (paper already contributed), DGSM Jahrestagung, Nordic Congress of Gerontology, Jahrestagung der Gesellschaft für

Neuropsychologie, Kongress der Deutschen Gesellschaft für Psychologie, eHealth Conference (paper already contributed), HCI International Conference (paper already contributed), Rehacare (paper already contributed), Immohealthcare(paper already contributed), Health and Care Nursing Congress (paper already contributed), Research Forum of Austrian Universities of Applied Sciences (paper already contributed)

Project website (homepage): at the beginning of project we produced a first version of our website in order to communicate main information about Guiding Light an to publish all public deliverables (see: guiding-light.labs.fhv.at). The initial version of our website uses German language but an English-language version of our website is under way too.



Figure 6. First version of Guiding Light website.

Templates: we provide templates for all main communication media to be used within our project for which suits general interest (e.g. reports, slides, fact sheet, flyer) but also suits to different steps in our project (e.g. informed consent letter) on our Confluence information platform; all project members will use these templates in order to ensure a unifying Guiding Light image.

Mailing lists: all project members add their eMail contacts to a commonly used mailing list, which will be used for central distributing of latest information, calls etc.

Newsletter: we are publishing electronic newsletters on a regular basis and will distribute them via our mailing lists (e.g. quarterly Youse-newsletter with approximately 1000 recipients); they will be used to enhance the awareness about Guiding Light.

Information folder: we will produce an image folder with general information about the Guiding Light project and the activities that will be developed within the project in an easily understandable manner; it will provide information about the project as a whole, ist objectives and expected results, and information about the consortium; the document will be available in print

and electronic format; we will put this leaflet on different information desks and will hand out the personally.

Lectures: all project members involved in academic programmes (FHV, BLL) will include results from Guiding Light project into relevant courses and course material

Workshops: project members (e.g. APOLLIS, YOUSE) will conduct applied workshops in order to provide information about results, products, and technical procedures of our project for care personell and electricians.

Face-to-face information: ongoing activities concern to direct communication about Guiding Light project by means of personal contacts.

4.2. Dissemination planning

The objective of the dissemination plan is to identify and organise the activities to be performed in order to promote the commercial exploitation of the project's results and the widest dissemination of knowledge from the project. The plan is expanded in two directions: towards the marketing activities in order to enhance the commercial potential of the Guiding Light system on the one hand, and towards the notification of project's results in the scientific community on the other. Dissemination is a horizontal activity that concentrates on disseminating the results of our project to a wide range of existing or potential stakeholders. Generally, our dissemination plan gives answers to the following questions:

What shall be disseminated?	Whom shall it be disseminated?	How shall it be disseminated?
General information about the project	all target groups	website, press releases
Increase awareness about AAL topics	older persons and their representatives, insurance companies, politicians, journalists	Press releases, electronic media (e.g. Facebook, YouTube)
Call for participation in field test	older persons, care givers, services	mailing lists, newsletter, leaflets
Developing results, products of Guiding Light	industry, economy, craftsmen, care givers, services	lectures, workshops, organizing conferences and information events, exhibition activities
Evaluation results, knowledge acquired	industry, economy, craftsmen, insurance companies, scientist, journalists	scientific papers, technical reports, papers for conferences

Cooperation prospects	industry, economy, craftsmen, scientist	information events, publications
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The dissemination plan is an overall plan of each project partner to disseminate and exploit the project activities and results through several means. The following plan is indicative and will be regularly assessed and updated.

Project participant responsible	Activity	Date	Medium and reference	Indicative coverage
FHV (A)	Project webpage	01/05/2012	www.guiding-light.labs.fhv.at	project goals/topics, consortium
FHV (A)	Information folder	18/06/2012	Print folder	project goals/topics, consortium
FHV (A)	Project presentation	22/08/2012	Press (Die Presse)	relevance/benefits for companies
FHV (A)	Project presentation	18/06/2012	europa.eu/ey2012/	project goals/topics, consortium
FHV (A)	Presentation an AAL Forum 2012	25/09/2012	www.aalforum.eu	technological specifications, business plan
FHV (A)	Announcement of project	18/12/2011	Press (Vorarlberger Nachrichten)	project goals
FHV (A)	Announcement of project	03/04/2011	Press (Die Neue)	project goals
APOLLIS (I)	Homepage	01/05/2012	www.apollis.it	project goals/test persons
YOUSE (GER)	Presentation on Website	02/05/2012	www.youse.de	project summary

YOUSE (GER)	Announcement on newsletter	22/05/2012	nYOUSE-letter	project summary
BLL (A)	Linking of project webpage on company webpage	28/09/2012	www.bartenbach.com	project goals/topics, consortium
FHV (A)	Demonstration of Guiding Light	25/07/2013	HCI International Conference 2013 in Las Vegas	Interim results
YOUSE (D)	Presentation of user integration	25/07/2013	HCI International Conference 2013 in Las Vegas	Interim results
FHV (A)	Demonstration of Guiding Light	23/01/2013	AAL Kongress 2013 in Berlin	Prototype presentation
BLL (A)	Demonstration of Guiding Light	24/06/2013	AAL Session "Tyrol Agency" 2013	Prototype presentation
YOUSE (D)	Demonstration of Guiding Light	28/09/2013	Rehacare 2013 in Düsseldorf	Interim results
FHV (A)	Demonstration of Guiding Light	29/05/2013	Immohealthcare 2013 in Zürich	Prototype presentation
FHV (A)	Demonstration of Guiding Light	05/06/2013	Health and Care Nursing Congress 2013 in Bregenz	Prototype presentation
FHV (A)	Demonstration of Guiding Light	04/04/2013	Research Forum of Austrian Universities of Applied Sciences	Technological solution
FHV (A)	Overview of pilot field test	04/12/2013	Austrian wide newspaper (Standard)	Research report

Annex: Project Fact Sheet

Name of the project, acronym, number:

Ambient Light Guiding System for the Mobility Support of Elderly People, Guiding Light,
AAL-2011-4-033

Coordinator Organization:

University of Applied Sciences Vorarlberg (A)

Length of the project and starting date:

36 month, May 1, 2012 – April 30, 2015

Partners:

Name	Type	Country	Web address
Fachhochschule Vorarlberg	R&D	Austria	www.fhv.at
Tridonic GmbH & Co KG	SME	Austria	www.tridonic.com
Bartenbach Lichtlabor GmbH	SME	Austria	www.bartenbach.com
myVitali AG	SME	Switzerland	www.myvitali.com
apollis - Institut für Sozialforschung und Demoskopie O.H.G	SME	Italy	www.apollis.it
YOUSE GmbH	SME	Germany	www.youse.de

Objective of the project (Between 400 and 500 characters):

Within this project we will develop and implement an intelligent light wayguidance system, which should attenuate age-related mobility impairments caused by reduced spatio-temporal orientation, worry about getting lost, and fear of falling. This guiding light will consist of up to date lighting technologies, innovative intelligent control algorithms, smart mobility monitoring systems, and a distributed information system for mobility parameters. Together with end-users and all stakeholders we will examine how these components can be combined with inter-personal care services.

Abstract of the project (Including technology in use, end-users involvement – between 1200 and 1500 characters):

Light is used to meet visual needs of human (e.g. highlighting risks of falling), is applied for temporal orientation throughout the day (e.g. emphasizing day-night rhythm), for spatial navigation during activities of daily living (e.g. illumination of a defined location areas) and is used as remembering as well as information signal (e.g. light spots and light signals). Light therefore has great potential for attenuation of age-related mobility impairments caused by reduced spatio-temporal orientation, worry about getting lost, and fear of falling.

To make use of light in this sense, we will implement a light wayguidance system in private homes of older people that performs a time- and motion-controlled change of intensity and color temperature of room lightings. We will use existing lightings in these rooms and supplement them with additional lighting equipment and electrical installation technologies. After modification light characteristics of lamps will change automatically according to the personal daily routine of residents.

This, however, will not be a rigid system. At the same time mobility parameters of the residents will be monitored (such as movements in and outside the home) and the results of analyzing these data will be used to change the programming of light variations. The adjustment of light programming will be done automatically, nevertheless, residents can manually readjust their lights at any time.

The degree of mobility is an important indicator of health. For this reason we will integrate relevant parameters into a distributed information system as the basis for decisions about preventive provisions. This will give residents at any time insight into their health status, which can be shared with persons of trust (e.g. relatives, doctor).

Expected results and impact (Between 400 and 500 characters):

Outcome of the project is an intelligent light wayguidance system consisting a variable set of flexible

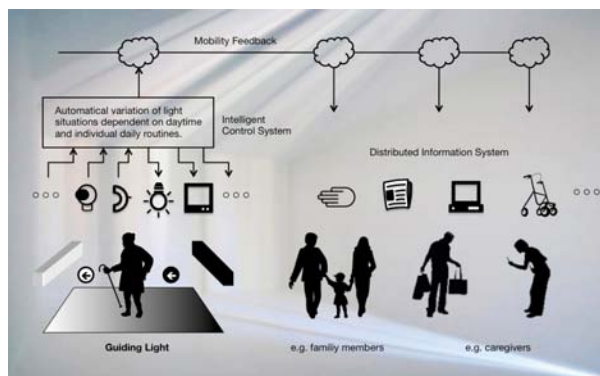
modules that work together with other heterogeneous home automation systems, information and communication systems as seamlessly as possible. The application of this guiding light system will support the spatial-temporal orientation of older people and thus sustain their mobility as long as possible.

Total cost of project and public contribution:

tbd

Images or graphic (Logo, images or photos showing the product or service):

Images or photographs (also graphics where needed) are mandatory. Send ftp link or esp file.




Website link(s):

guiding-light.labs.fhv.at

Contact person (name, e-mail, phone, address):

Prof. Dr. Guido Kempter, guido.kempter@fhv.at, +43 5572 792 7300, Fachhochschule Vorarlberg, Hochschulstrasse 1, A-6850 Dornbirn

Annex: Selected websites


Deutsch | Italiano | English

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Familie & Alter

- GUIDING LIGHT - Mobility Support of Elderly People
- Kinderarmut in Südtirol
- Zweiter Aufbruch: Aktives Altern durch berufliche Neuorientierung
- ALADIN - Ambient Lighting Assistance for an Ageing Population
- Indikatoren für familienfreundliche Politik auf Gemeindeebene
- Trittsteine für eine bessere Vereinbarkeit von Familie und Beruf im Pustertal
- Kundenzufriedenheit im Bereich der Kleinkindbetreuung
- Betrieblich unterstützte Kinderbetreuung
- Ergänzungsvorsorge der Region Trentino-Südtirol
- Sicheres Wohnen im Alter

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Gesundheit & Umwelt

Mobilität & Verkehr


Märkte & Verbraucher

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Freizeit & Tourismus

GUIDING LIGHT

Ambient Light Guiding System for the Mobility Support of Elderly People



Unterstützung älterer Menschen im Alltag durch den Einsatz intelligenter Raumbeleuchtung

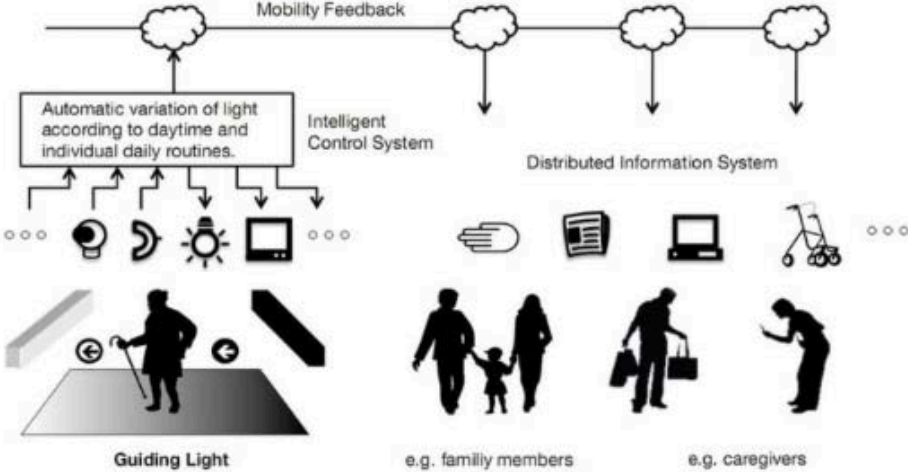
Assistenza agli anziani nella vita quotidiana tramite un sistema intelligente di illuminazione

The project AAL-2011-4-033 is funded under AAL JP

Duration: 36 month, May 1, 2012 – April 30, 2015

<http://guiding-light.labs.fhv.at>

Aktuell	Attualità
<p>Wir suchen in Südtirol ältere Leute, die alleine leben, neugierig auf eine intelligente Beleuchtungstechnik sind und eventuell Lust haben, das System im Rahmen einer wissenschaftlichen Studie mehrere Monate lang auszuprobieren.</p> <p>Auch Seniorenresidenzen oder Betreuungseinrichtungen, die an der Förderung von Sicherheit, Orientierung und Mobilität durch Lichtsysteme interessiert sind, sind zur Teilnahme herzlich eingeladen.</p> <p>Kontaktperson: Ulrich Becker (0471 312442)</p>	<p>Cherchiamo singles anziani in Alto Adige che abbiano voglia di partecipare ad uno studio scientifico e di provare per alcuni mesi un innovativo sistema intelligente di illuminazione. A questo progetto per la promozione di sicurezza, orientamento e mobilità tramite sistemi di luce sono invitate a partecipare anche le strutture di assistenza.</p> <p>Contatto: Ulrich Becker (0471 312442)</p>



The diagram illustrates the system architecture. At the top, a 'Mobility Feedback' line connects to an 'Intelligent Control System' box, which manages the 'Automatic variation of light according to daytime and individual daily routines.' This system is linked to a 'Distributed Information System' that interacts with various devices (light bulbs, sensors, a smartphone) and users (represented by icons of a person with a cane, family members, and caregivers). The 'Guiding Light' component is shown as a floor-mounted system with directional arrows.

Website of Apollis (<http://www.apollis.it/17d1853.html>)

Our Projects / GUIDINGLIGHT

GUIDINGLIGHT

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Light is used to meet visual needs of human (e.g. highlighting risks of falling), is applied for temporal orientation throughout the day (e.g. emphasizing day-night rhythm), for spatial navigation during activities of daily living (e.g. illumination of a defined location areas) and is used as remembering as well as information signal (e.g. light spots and light signals). Light therefore has great potential for attenuation of age-related mobility impairments caused by reduced spatio-temporal orientation, worry about getting lost, and fear of falling.

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Objectives:



Get involved

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BUSINESS

USERS

Latest News & Events

6 MARCH 2014

HOST CONFERENCE

6-8 MAY 2014

MHEALTH SUMMIT

EUROPE

Website of AAL JP CMU (www.aal-europe.eu/projects/guidinglight/)

Lichtassistenzsystem für die räumlich-zeitliche Orientierung älterer Menschen

[Home](#) / [Projekte](#) / [GuidingLight](#)

GuidingLight



Guiding Light

Mit mentaler Orientierung wird die Fähigkeit umschrieben, sich zeitlich und örtlich personengerecht zu verhalten bzw. zu wissen, wo man sich zu einem bestimmten Tageszeitpunkt in welcher Rolle befindet und welche Tätigkeit jeweils ansteht. Diese Fähigkeit zählt zu den Grundvoraussetzungen der räumlichen Mobilität bzw. der gezielten Überbrückung räumlich-zeitlicher Distanzen.

Testpersonen gesucht für intelligentes Lichtsystem



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Kongresse & Vorträge

[AAL-Kongress 2013 in Berlin](#)

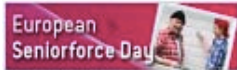
Website of myVitali (www.myvitali.com).



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30/06/2013

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Ambient light guiding system for the mobility support of elderly people

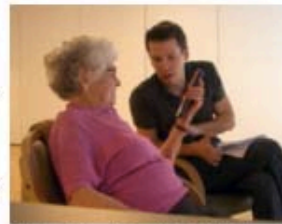


01/05/2012-30/04/2015

Vorarlberg (Austria)

The objective of the Guiding Light project being developed by UCT Research in Austria is to develop, tentatively implement and empirically evaluate an intelligent assistance system aiming to maintain and improve the indoor and outdoor mobility of older people.

This goal is to be achieved by enhancing the spatial and temporal orientation of elderly people by means of a guiding system based on ambient light.

© <http://guiding-light.labs.fhv.at>

UCT Research intends to extend knowledge about the impact of an effective lighting on the well-being and comfort of older people, and translate this into a cost-effective open solution.

This solution should assist older adults in living at home autonomously for a longer time and help them accomplish their daily activities.



Promoter:

University of Applied Sciences Vorarlberg - UCT Research

The University of Applied Sciences Vorarlberg's User-Centred Technologies Research Institute (UCT Research) concentrates in the investigation and development of new technologies according to the needs and restrictions of users.

Sponsor (s):7th Framework Programme (FP7) - European Commission
Ambient Assisted Living Joint Programme (AAL JP)**Website:**http://guiding-light.labs.fhv.at/Site_2/GUIDING_LIGHT.html**Location:**

Dornbirn

Contact:Guido Kempfer : kem@fhv.at Share Subscribe to e-newsletter Follow us on twitter Find Social Europe on facebook Employment, Social Affairs & Inclusion