



Guiding  
Light

## **Ambient Light Guiding System for the Mobility Support of Elderly People**

### **Communication Strategy**

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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:

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](http://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 distinguishes between internal and external communication. Internal communication refers to information exchange within the project consortium - external communication includes the communication between the project consortium and the stakeholders. External and internal communication are essential components in the project Guiding Light, which should help spreading the findings beyond duration of the project and should also ensure an efficient cooperation within the project team. Purpose of the communication strategy is to provide a target-group-specific and comprehensive distribution of the project-findings and to achieve frictionless information flow within the project team. The communication activities within this project are mainly based on the Description of Work as well as on the deliverables deducted from the work packages. The documentation of the work package deliverables and also the contents edited by the involved project partners are conducted within the framework of the reports and presentations.

## 2. Project-facts

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](http://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)

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The project is carried out under the AAL Joint Programme with funding by the European Union and involved National Funding Authorities.

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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.

## 3. Purpose of Communication

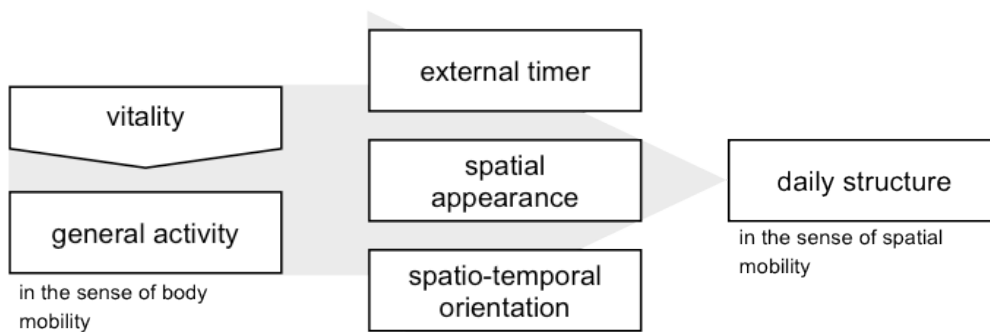
### 3.1 Initial situation

The motivation for the project Guiding Light results from the fact that mobility is considered as essential to enable elderly people to live a self-determined life as long as possible (WHO, 2007). Mobile people are able to structure their daily lives and to manage daily activities on their own. They participate in social life and have wider choices of potential recreation offers. Nursing sciences define mobility as the "...degree of autonomy required in activities which serve the locomotion or body motion..." (Wingenfeld, 2011) This definition includes two aspects of mobility: locomotion respectively spatial mobility as well as body motion respectively body-mobility.

Mobility requires a certain degree of psychophysiological vitality, i. e. a. dynamic and activating pattern of behavior. Whereas a primary constriction of mobility does not necessarily imply a reduction of vitality, a disruption of vitality has a lasting effect on the aspect of locomotion as well as on body motion (Feinstein et.al, 2001). Mobility is normally focused, resp. structured in daily routines when there are no pathologic disorders (for example walking around caused by dementia). The loss of these daily structures often causes elderly people to move to assisted accommodation. On the other hand measures taken to support daily routines are important interventions for people with age-related cognitive impairments. (Greving & Remke, 2012). Mobility in a daily structure is influenced by several factors, which include external timers (e.g. social engagements, daylight), spatial environment (e.g. obstacles, illumination of the way) but also cognitive abilities (e.g. spatial and temporal orientation).

### 3.2 Aim of the project

In the context of the project of Guiding Light a computer-operated room-lighting will be developed, which has a positive impact on the maintenance resp. improvement of the mobility of elderly people. The requirements of mobility include psychophysical vitality, external timers, the spatial appearance as well as the cognitive ability for spatial and temporal orientation. We distinguish between body-mobility and spatial-mobility. Individual mobility will be registered by applicable measurement instruments and the results will be made available to several target groups. The project consortium uses the mobility data to gradually improve the room light.

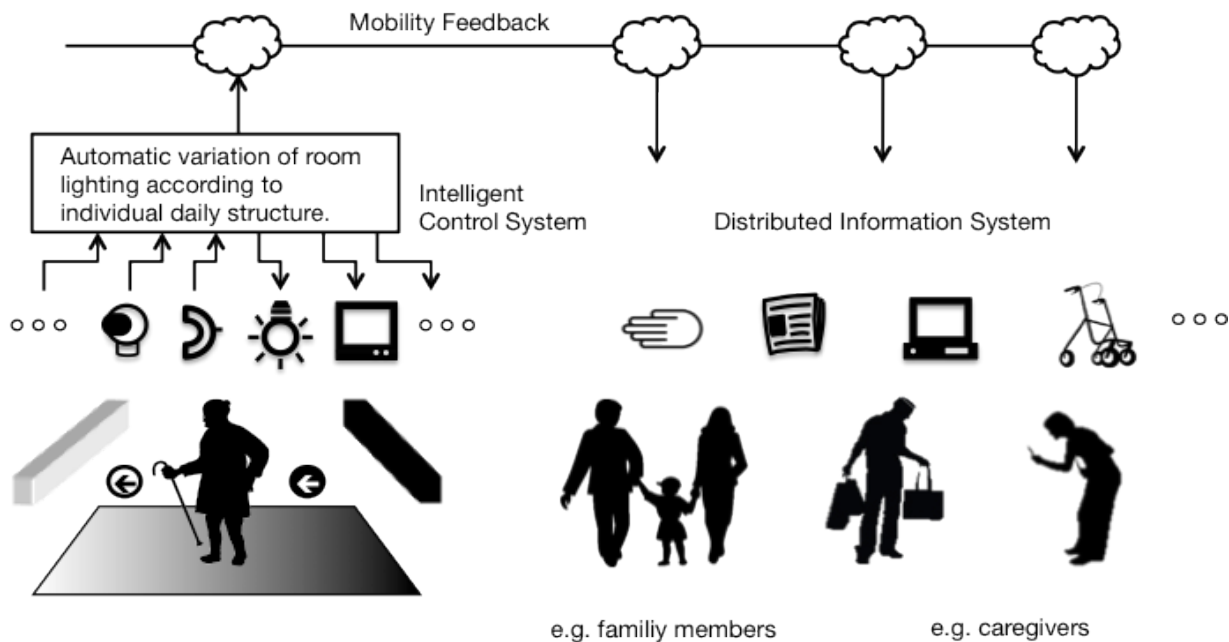


General concept

Guiding Light applies controllable lights synchronized by a building-bus-system, which allow an individual and specific regulation of the light-situation in all rooms of a flat.

It is supposed that the planned light features will have a direct and positive impact on the psychophysiological vitality, on external timers, on the appearance of the rooms and also on the cognitive ability regarding temporal and spatial orientation.

Subsequently we assume a beneficial influence on activity in general in terms of body-mobility and the day structure in the sense of spatial mobility.

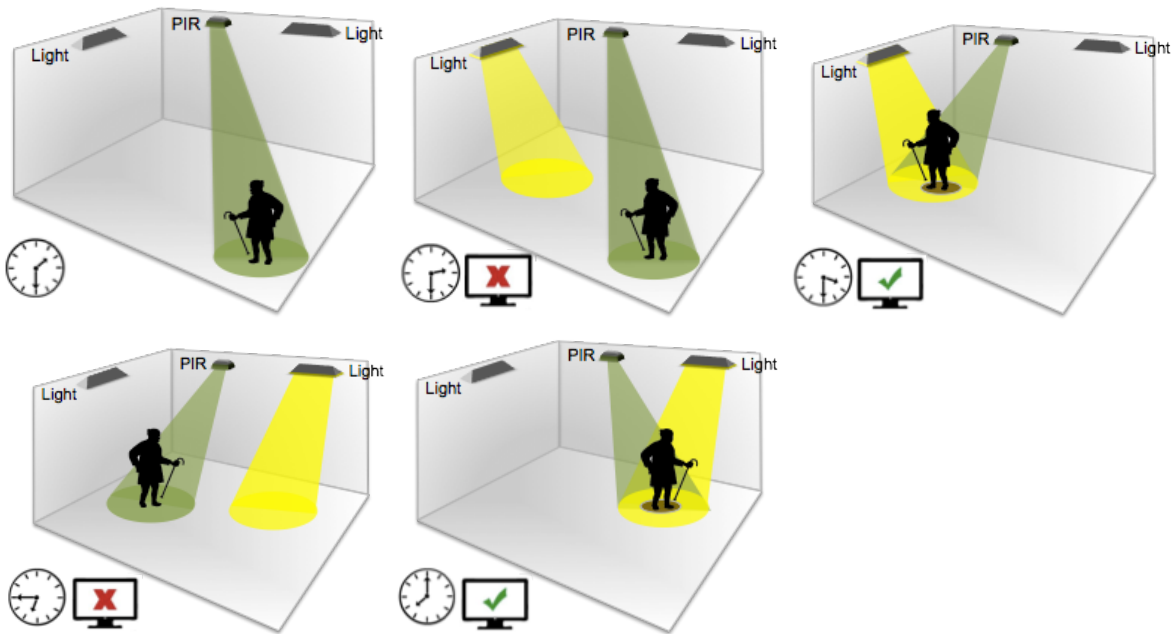


Guiding Light System Overview

### 3.3 First Ideas for the planned light solutions

The light installation allows a spatial and temporal variation of light intensity and light colour temperature (electronic timer). We differentiate between task lighting, which is constricted to predefined spatial zones, and ambient lighting, which illuminates the whole room in the background. Every light group has a 24 hour automated controlling profile for light intensity and light colour temperature. This light switches on automatically when the room is not lit sufficiently by day light. Manual handling of the lights is possible at any time, after a predefined period the automated light controlling starts again. The electronic timers are in accordance with the individual daily structure and they are discreetly set (resp. contrasts, temporal transition). Optimal room lighting will be available at any time – also when unplanned activities are carried out. When there is no person in the flat, all the light groups are switched off automatically. This light solution complies with the requirements of energy-efficiency.

The effort of installation required will be minimal (personal, technical and financial) and the outward appearance of the technical solution should be appealing.



Potential controlling concept for task lighting

### 3.4 Initial ideas for the planned solution of the monitoring of mobility

The monitoring of mobility is limited to room sensors, i.e. no body-carried sensors are applied. It should be possible to determine how many persons are staying in the apartment respectively when exactly the concerned person is staying inside or outside of the apartment.

It should be possible to determine, at which time the concerned person is staying at which place inside the apartment respectively in which spatial zone the concerned person is staying.

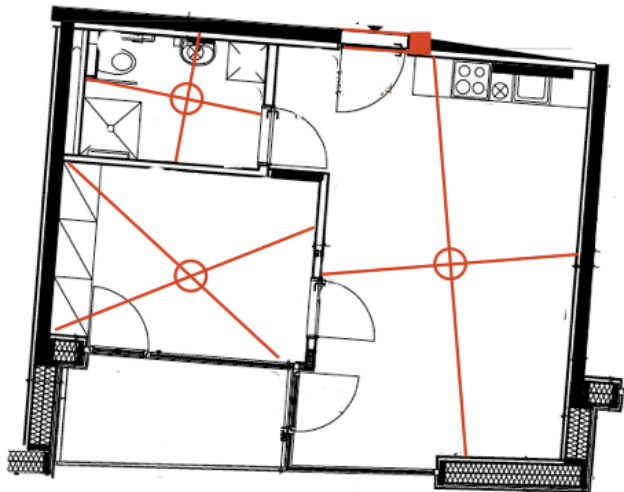
The temporal solution will average out between one second and one minute. Out of this an individual daily structure will be established.

Furthermore it is necessary to find out about the physical activity inside the apartment, i.e. the dimension of body movements by day by night (e.g. while sleeping).

For the period in which the person is staying outside the apartment, an increased physical activity is assumed (subject to the condition that no absence due to illness or no longer other absence exists).

A solution could be to install PIR-motion detectors which records motion activities, zoned in four 90-degree-sectors and to install a light barrier at the entrance of the apartment.





Possible model of the mobility monitoring with one PIR-motion detector per room and a light barrier at the entrance of the apartment.

### 3.5 Planned solution for the information system

The information system is addressed to elderly people, to their carers as well as the implementers of the system (e.g. the planners of the lighting). The information system has to be arranged in a very simple way for the concerned people. In the system of myVitali it has been proven of value that only one indicator is quoted per vital sign. This could be a single mobility indicator of which the temporal process is demonstrated. A more complex evaluation of the mobility would make sense for the persons looking after the elderly people (carers) and the implementers. This analysis should illustrate the central impact factors like physical and spatial mobility as well as transformations of these impact factors.

Days: June 1, 2012 - Dec. 31, 2012

	Stay	Activity	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Time
Bedroom	?	333																									
Changing room	?	548																									
Bathroom	?	742																									
Living room	?	684																									
Kitchen	?	841																									
Outside of flat	?	--																									
	Day	Night																									
Activity (t)	762	299																									

Potential information system for experts

### 3.6 Ethical principles

In connection with the ambient technologies of assistance a range of ethical questions arise to which particular attention will be paid within this project.

The involved parties of this project commit themselves to maintain the internationally accepted ethical standards, for example those of the European Convention for the Protection of Human Rights and Fundamental Freedoms and the European ethical standards concerning "Ambient

Assisted Living“. To ensure the compliance with these standards, the project is implementing the following established ethical measures for the prevention of restrictions of freedom.

<b>Established Ethical Measures</b>	<b>For the Prevention of</b>
<ul style="list-style-type: none"> <li>– Possibility to autonomously turn off the system at any time/</li> <li>– Possibility to generally keep utilization data within the system and to only communicate with the outside when threshold values are exceeded</li> <li>– Offering of alternative solutions for the privacy of the concerned parties</li> <li>– Generally international ethical standards shall be complied with</li> </ul>	The loss of privacy (the right to be left on one's own)
<ul style="list-style-type: none"> <li>– Creation of transparency by providing all target groups with wide-ranging education</li> <li>– Enabling autonomous or collective configuration (e.g. threshold values)</li> <li>– Enabling technique expertise of the users (bringing people together)</li> <li>– Ensuring data security by providing adequate technical solutions</li> <li>– Anonymisation of user data</li> </ul>	The breach of data protection (loss of control of data, transparency of the gathering and usage of data as well as personal rights)
<ul style="list-style-type: none"> <li>– Indicate the usefulness of the system</li> <li>– Ask the users for a prior statement of consent, which they can recall at any time without any consequences</li> <li>– Possibility to delete data at any time</li> <li>– Instruction of communication for the (automatically summoned) nursing staff</li> </ul>	The deprivation of freedom and autonomy (individually felt pressure or stress and constriction due to the feeling to be kept under surveillance)
<ul style="list-style-type: none"> <li>– Launch fault-tolerant systems respectively services (e.g. fuzzy logic respectively no causalities)</li> <li>– Ensuring secure data lines (e.g. no Internet and mobile phone for security aspects)</li> <li>– No medical IKT-services</li> </ul>	Safety concerns due to the possibility of technical failure

<ul style="list-style-type: none"> <li>_ Ambient Assisted Living leads to the establishment of new job profiles</li> <li>_ Care givers are able to devote more time to personal needs of the concerned people</li> <li>_ Assistance technologies provide valuable support for the individualization of services</li> </ul>	The elimination of jobs and/or the replacement with unqualified personnel
<ul style="list-style-type: none"> <li>_ Costs are outsourced: amortization of installation costs by reduction of costs for care, hospital and insurance</li> </ul>	Increased costs due to expenses in technical installations
<ul style="list-style-type: none"> <li>_ The responsible person is the operator</li> <li>_ The developers assist the operator with the conception, installation, instruction and optimization</li> </ul>	The lack of clarification of the long-term responsibility to comply with ethical standards

These ethical principles of the project shall be mentioned in the communication work in each case. It must also be pointed out that in the event of changes of the ethical and legal guidelines they have to be adapted accordingly.

## 4. TARGET GROUPS OF COMMUNICATION

Project Partners communicate with different extern target groups. To them the advantages of the program respectively of Guiding Light must be demonstrated with different focuses, since different interests exist.

The central target groups respectively interest groups are hereafter referred to, as well as keywords, which strategy is regarded to be helpful when communicating with these target groups.

### 4.1. 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.

## 4.2. 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.

### 4.3. 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.

#### **4.4 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.

#### **4.5 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.

#### **4.6. 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.

#### **4.7 Project team**

The project team primarily includes the consortium partners and their employees. Among them there should be clear rules about who will carry out which activity at what time. The members of the team regularly inform the team about the working process and they point out possible

delays in time. The project coordinator will be informed about all project activities so that he is able to ensure optimal intern communication. The project team also includes the AAL JP National Funding Agencies and the AAL JP Central Management Unit. They will be informed by the project team in the designated way of reporting regularly. Questions from funding agencies will be answered by the project team as quickly as possible.

## **5. STRATEGIC PLAN FOR EXTERN COMMUNICATION**

The plan referred to hereafter is designated to generate the maximum reach of the results in each phase of the project, in doing so the efforts in the early and intermediate phases aim to generate attention of up-coming activities among potentially interested parties.

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).

### **5.1 Aim of communication**

For the beginning of the external communication a communication concept will be developed together with all project partners and directly concerned groups of persons which will be supported by all project partners.

This communication concept serves the purpose of ensuring consistency in communications when presenting the project to stakeholders. It shall build up a positive reputation of the project and prevent negative effects which might be caused by improper communication.

The external communication furthermore has the objective to:

- \_ make the contents, objectives and the progress of the project easier to understand
- \_ create interest for the product Guiding Light and generate potential customers
- \_ create trust of project concerned people in the project team
- \_ improve the transparency of decisions and processes so that the project concerned people can get involved in the project
- \_ create the willingness for the demographic change and acceptance regarding solutions of the project
- \_ make the project concerned people to project involved people

### **5.2 Methodical approach**

The communication strategy will follow the AIDA scheme, i.e. the density of information and the integration of target groups will get higher with every communication step, the reception and the engagement of target groups will be deepened.

Attention (phase of promotion): generate attention via specific but still simple preparation of the content (simple information folder, visit to the website, lectures, trade fairs, public private partnerships etc.),

Interest (phase of information): create interest via detailed and comprehensive information (e.g. press texts with info boxes on the particular focuses like technology, health, social issues,

economic efficiency, usage of information packages on the website, information via media of multipliers and experts etc.),

Desire (phase of involvement): stimulate the need and desire among target groups to act in a corresponding innovative way, development of personal involvements for Guiding Light among target groups, attendance at events, excursions, workshops etc. (conducting of innovative restoring or planning, join in inhabitants for smart rooms, organize funding appropriately etc.),

Action (action phase): take actions among target groups (inhabitants move to “smart apartments”, care providers restore respectively build only new residential forms in the future, housing subsidies rewards smart building technologies, politicians continuously develop funding and laws which force AAL-measures etc.).

### **5.3. Rights and obligations**

Every project partner is entitled to report about the project and to publish articles which give an overview of the project. Articles which give an overview of the project usually do not contain any new, i.e. unpublished, results about the project.

Publication rights for new project results (called “Foreground IP”) belong to those project partners who have generated the project results (= authors). If several project partners have collectively generated project results, all involved project partners have the same publication rights. A publication right grants its owner to decide about “whether” and “how” to publish. However, this right applies only to the first publication. § 6.6 of the syndication treaty applies exclusively in the case of transmission of publication rights.

Every project partner makes an effort to publish the project and its results as quickly as possible, while respecting publication rights. She or he decides on her/his own about the time and way of communication (newsletter, web presence, press release, article in professional magazines and contributions at professional conferences). I.e. the consortium partners are responsible for public relations

The authorship essentially complies with the kind of publication (overview-article, presentation of results) and the activity of the participators. When overview- articles are concerned, the responsible author names his co-authors according to their contribution to the article.

In the presentation of results an author names the co-authors according to their contributed components. First author is usually the person who has written the manuscript.

The project coordinator will be informed of the publications of the project and the project results.

Any communication or publication, including information given to the press, publicity material, official notices, reports, publications, shall acknowledge that the project is/was carried out under the AAL Joint Programme with funding by the European Union and involved National Funding Authorities. Furthermore any publication will give an indication to the Guiding Light consortium.

### **5.4. Communication activities**

Information platform: All exchange of data within the project team is carried out via the password protected Confluence information platform: <http://uct-projects.labs.fhv.at/display/gj/Home>



Logo: A project logo was developed right at the beginning, so it can be applied in all displays and representations of the project in public. The logo was ichnographically developed with regard to the subject matter of the project; see <http://uct-projects.labs.fhv.at/display/gl/Home>

Acronym: Guiding Light

Corporate Wording: The following terms for the project in development are being used: Guiding Light; Smart Lighting Assistance; Ambient Light Way Guidance System.

Trade fair representations: The project partners come to an agreement, in which form they will present Guiding Light on specialised trade fairs (e. g. Medica, Light & Building, OrgaTec Köln).

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

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

Press release: Press statements are written for special events (e. g. Kickoff) and published on the project website.

Artwork / Picture material: Pictures, photos, etc. that can be used for the public presentation of the project are filed on the information platform; see <http://uct-projects.labs.fhv.at/display/gl/Home>

Organization of meetings: Per project year the consortium organizes a symposium, in which the project Guiding Light forms an essential part (FHV, YOUSE and APOLLIS are significantly responsible for this). FHV is planning a Usability Day on the issue of Guiding Light.

Specific articles: Every project partner strives to publish at least one specific contribution per project year, i. e. a Scientific Paper, as well as scientific or nursing science articles.

Contributions to symposia: Every project partner strives to publish at least one specific contribution per project year. The following symposia may be relevant: AAL Forum (contribution has already been submitted for September 24 to 27; Eindhoven), German AAL Congress, Society for Light Treatment and Biological Rhythms Annual Meeting, ITG Community Conference, Light and Health, GfA Spring Congress, IES Light + Seniors, Alzheimer Congress, German Geriatric Congress, Austrian Geriatric Congress, DIN Expert Forum, DGSM Annual Meeting, Nordic Congress of Gerontology, Annual Meeting of the Society for Neuropsychology, Congress of the German Society for Psychology, eHealth Conference

Project-website (homepage): Right at the beginning of the project a website is set up. Here central information and openly accessible public deliverables are made available; see [www.guiding-light.labs.fhv.at](http://www.guiding-light.labs.fhv.at)

Drafts: Drafts for the communication media (e. g. reports, slides, flyers) used in the project are produced and made accessible on the information platform. They will be used by all project partners, in order to achieve a consistent outward appearance.

Mailing lists: All the partners of the project file e-mail contacts, relevant for the project, in a mailing list, which will be used for the central posting of up-to-date information, inquiries, appeals etc.

Newsletter: Digital newsletters are produced – more or less regularly – which will be sent via mailing lists. They contribute to the awareness-raising for AAL – topics.

Information folders: Right at the beginning of the project an information- (image-) folder is produced. It is clear, structured, and informative about the aims and contents of the project in an easily understandable way.

University courses: The project partners active in academic programmes (FHV, BLL) will integrate the results of the Guiding Light project into relevant University courses.

Courses: There is also an offer of practice oriented courses (e. g. by APOLLIS and YOUSE), passing on the results, products and technical process of the project to e. g. nursing staff and electrical engineers.

Face-to-Face information: Current activities concentrate on the notification of the project via personal contacts of the project partners.

## 5.5. Realisation

<b>What should be disseminated</b>	<b>To whom should it be disseminated</b>	<b>How should it be disseminated</b>
General information about the project	all target groups	project-website, articles in the press
Awareness-raising Concerning AAL topics	senior citizens, insurance companies, politicians, stakeholders, journalists	Articles in the press, new electronic media (Facebook, YouTube)
Appeal to participate in studies	senior citizens, care givers, services	mailing-lists, newsletters, information folders
Development results, products of Guiding Light	industry, economy, craftspeople, care givers, services	university courses, courses, information events, organisation of meetings, presentations on trade fairs
Evaluation results, cognitions	industry, economy, craftspeople, insurance companies, scientists, journalists	scientific papers, contributions at specialist conferences
Options for connection and cooperation	industry, economy, craftspeople, scientists	university courses, courses, information events

## 6. STRATEGIC PLAN FOR THE INTERN COMMUNICATION

A close intern communication is essential for a fairly homogenous outward representation of the project. Intern communication should be authentic and controllable, which also comprises the information about negative facts and unsatisfactory developments. This plan is primarily intended for the project team, i. e. the partners of the consortium and their co-workers.

### 6.1 Aim of communication

The project team maintains the dialogue. It exchanges relevant information among each other without delay and reacts to the concerns and questions which are put by groups of stakeholders and the team. Furthermore, the strategic plan for intern communication aims to pursue the following objectives:

- \_ effective and efficient flow of information within the project team
- \_ open, appropriate, regular, coherent, audience-orientated and up-to-date information in German and in English
- \_ acceptance and openness to criticism and other opinions within the project team
- \_ demonstrate the project to the public in an approximately homogenous way

### 6.2 Methodical approach

Intern communication pursues the empowerment-approach with three important tasks.

Information: All involved parties must be informed about the objectives and strategies of the project, about the latest work results, decisions and developments.

Promotion of acceptance and motivation: Personal commitment, creativity and enthusiasm of all parties involved shall be encouraged by project communication. This contributes to the identification of all team members with the objectives of the project.

Coordination: The team's work is orientated to pursue a common objective by the communication within the project. The individual works are brought to agreement and coordinated with each other.

### 6.3 Rights and obligations

All project partners shall take any measures necessary to perform and fulfill promptly and in due time all their obligations, so that the project is carried out in accordance with the terms and conditions of the Description of Work. The Contractors shall provide the co-coordinator with the deliverables, information, and reports the co-coordinator needs in order to perform his/her duties as regards this project. On request of the coordinator all deliverables, information, and reports shall be submitted in electronic form or any other format mutually agreed upon.

Each project partner undertakes:

- \_ to notify promptly of any delay in performance or of any event that may have an impact on the project;

- to inform of relevant communication with third parties in relation to the project;
- to ensure the accuracy and completeness of any information or materials he/she supplies the other project partners with and to promptly correct any error therein of which he/she is notified;
- the recipient project partner shall be responsible for the use to which such information and materials are put
- not to use knowingly any proprietary rights of a third party for which the respective project partner has not acquired the corresponding right of use and/or to grant licenses;
- to act in good faith and in a manner that reflects the good name, goodwill and reputation of the other project partners at all times and to act in accordance with good business ethics;
- to participate in the meetings of the different bodies under this project in a cooperative manner and not to exercise veto rights, which are absolute, inappropriately.

## 6.4 Project Management Board

The project is structured by Work Packages allocated within Description of Work. The Project Management Board shall handle major changes in Work Packages, particularly creation, reallocation, or termination. The Project Management Board shall consist of one representative of each project partner. The co-coordinator shall chair all meetings of the Project Management Board. Each representative shall have one vote and may appoint a substitute to attend and vote at any meeting of the Project Management Board.

The co-coordinator shall convene meetings of the Project Management Board at least on a half-year basis and shall also convene meetings at any time upon written request of any project partner in case of an emergency situation. The co-coordinator shall give at least fourteen calendar day notice in writing of such meetings to each project partner or seven calendar day notice in case of an emergency situation. Any decision requiring a vote at a Project Management Board meeting must be identified as such on the invitation. Should a project partner suggest to add a discussion/decision to the proposed agenda, he/she shall do so in writing to all other project partners at least two calendar days prior to the meeting date.

The Project Management Board shall be in charge of managing the project and of major decisions relating thereto. The Project Management Board shall not deliberate and decide validly unless a majority of two-thirds (2/3) of its members are present or represented. When decisions are to be taken unanimously, all project partners must be present or represented at the meeting. In other cases, decisions shall be taken by a majority of 75 per cent of the votes of project partners present or represented, provided always that a project partner whose Work Package, time for performance, costs or liabilities, or intellectual property rights are impacted or whose information is to be published, may veto such decisions and such veto shall be duly justified. The project partners agree to abide by all decisions of the Project Management Board.

## 6.5. Communication Activities

Regular meetings of all project partners are required in order that internal communication aims can be achieved. At these meetings, facts and pending questions are presented and discussed and decisions are made. If, between meetings, project partners have questions concerning external communication, it is recommended that they contact the other project partners and coordinate their external communication with them before issuing any

statements. They should inform themselves about the facts and consult with the other project partners. Internal communication also includes communication with the AAL JP National Funding Agencies and the AAL JP Central Management Unit. The project team regularly informs these institutions in accordance with the specified deliverables. Inquiries from the funding agencies are to be answered by the project team as quickly as possible.

**General Meetings:** General Meetings are held at regular intervals or every six months at a minimum. At these meetings, interim findings are presented and important decisions are made. The meeting host shall draft the minutes of each meeting to formalize in writing all decisions taken and shall dispatch them to all project partners within fifteen calendar days of the meeting concerned. The minutes are considered to be accepted by the project partners if, within fourteen calendar days from the receipt thereof, no project partner has objected in writing to the co-ordinator, provided that the objections are about such formalization or about any decisions that were not on the agenda and not approved by all the project partners.

**Additional meetings:** further meetings are organized depending on current questions or acute problems.

**Minutes:** minutes are taken of all meetings so that partners who are not able to attend are also informed about the content. After approval by the project partners the minutes are published on the project Wiki confluence.

**Project reports:** reports are written for all project milestones according to the "Description of Work" as defined in the "Deliverables". These reports have to be written in English. The people responsible for writing the reports are defined in the "Description of Work". The other project partners agree to assist that partner who is responsible if required.

**E-Mails:** the latest information and upcoming questions are managed by e-mail communication. The project partners are obliged to answer accurately and within an appropriate period of time.

**Collective e-mail box:** the whole e-mail correspondence within the project consortium is filed in the collective e-mail box, using the e-mail-address [guiding.light@fhv.at](mailto:guiding.light@fhv.at).

**Confluence:** all material, documents, reports and data are filed real-time on the project Wiki confluence <http://uct-projects.labs.fhv.at/display/gi/Home> and are available without any limitation (except IP regulation) to all project partners.

**Website:** important information for external communication is accessible on the website [guiding-light.labs.fhv.at](http://guiding-light.labs.fhv.at). This also includes corresponding artwork / pictures.

In general, all the project partners have to provide reports to their NCPs in accordance with National Fund Regulations. For example, in Austria, the partners have to deliver progress reports. At this level, a report about deliverables only has to be submitted upon if necessary. Besides reporting at the partner level, reporting at the consortium level is also required. This is carried out annually at the request of the CMU. The CMU sends annual progress and financial report templates to the Project Coordinator before the end of the calendar year. Two weeks prior to the closing date for report submissions, the CMU sends a reminder. Deliverables have to be submitted upon request.

Besides that, a mid-term review is conducted by international experts. For this, deliverables are mandatory as well. The procedure for the mid-term review is as follows: the Project Coordinator has to provide documents / reports requested by the CMU (e.g. deliverables). The

evaluation is done by international experts, who appraise the documents and reports. In the course of the reporting at the consortium level – which is addressed to the CMU and international experts – the reports and deliverables have to be written in English. The national progress reports can be written in the national language, except in Switzerland, where the reports have to be written in English.

## Annex: Glossary

Each discipline, each subfield, indeed each subtopic of a subdiscipline has its own jargon. For outsiders this is often not comprehensible. For example, it is common to use English terms or terms in Latin (nowadays less common) that are unknown to the general public; this sometimes has a deterrent effect. Vocabulary is used that is only known to a small group of experts. Even German expressions are often not part of general vocabulary and are ambiguous or incomprehensible. Furthermore, jargon is often mingled with abbreviations and acronyms.

All these characteristics are not appropriate for external communication, which should be comprehensible, both in speech and in writing. Such terms should therefore be avoided in external communication. Technical terms used for external communication should be explained in a generally intelligible and concise manner, and explanations should be to the point.

Below, key terms and abbreviations used in the Guiding Light project are described using more colloquial language:

**AAL (Ambient Assisted Living):** systems, products and services, supporting the daily life of elderly people in an unobtrusive way

**Accessibility:** barrier-free and adapted to the needs of people, regardless of possible disabilities

**Acceptance analysis:** investigation of senior citizens' satisfaction with the ambient assistance technology

**Ambient assistance technology:** technology implemented in the residential environment that supports the daily life of people in an unobtrusive manner

**Assistance technology:** smart technology supporting people in their daily life

**Slow-go:** elderly person with limited mobility

**Evaluation:** scientific assessment

**Building and room automation:** system that supports building and room automation (e.g. light, shutter, heating controller). Frequently, bus-systems are implemented, which, for example, help to improve the exchange of data.

**IKT:** information and communication technology

**Locomotion behaviour:** movement of people in a room

**Mobility:** ability to execute targeted movements

**Primary user analysis:** survey evaluating the well-being of senior citizens

**Actuators:** switchgear for activating shutters, heating, lights etc.

**Sensors:** sensing elements and signal generators such as temperature sensors, motion detectors, CO<sub>2</sub>-sensing devices etc.

Secondary user analysis: investigation of the demand for smart (technology-assisted) apartments for senior citizens

Sensorimotor disorders: reduced mobility

Usability: convenient use of hardware and software (user friendliness)

Go-go: elderly person who is still mobile

## **Annex: FAQs**

“Frequently asked questions” (FAQ) are generally known from Internet usage. FAQs are a list of real or assumed standardized questions relating to a project and published together with professional answers – mostly in written form on a homepage – by the promoter. In the present case, the FAQs and the related answers can be used for publication on the Internet and also as guidelines for other verbal or written communication between the project members.

What is the implemented technology used for and what are its advantages?

The implemented technology allows conclusions to be drawn about the resident's performance. Thereby, deviations in behaviour or changes in daily routines can be identified and counter-measures can be initiated (for example, identification of restricted mobility). The advantage of the technology can be seen in the fact that residents are not hindered in any way by the equipment and that they even obtain certain comfort functions.

Which concrete technologies will be implemented and what are their purposes?

The answer to that question depends on the electrical plan and can only be answered after the electrical plan has been provided.

Are there any negative impacts on the health of the residents caused by the technology used?

We will only use commercially available products, which have been submitted to all necessary controls. The technology used meets all appropriate legal requirements. In cases of particular sensitivity, a mains disconnect relay can be used that ensures that cables are voltage free when devices are not in operation.

Are there any experiences in everyday life with AAL technologies?

In the course of the Aladdin research project, it was possible to achieve improvements in the agility and mental balance of the senior citizens due to individualized lighting and mental fitness training.

How do you ensure data protection in the project?

All data is filed encoded. Unauthorized access to the system is impossible.

To what extent are the residents under surveillance from outside by the technology?

As the data collected is evaluated internally by the system and only special incidents – as agreed by the residents beforehand – are delivered outside (for example, to the advisory centre), there is no unintentional surveillance from outside.

Do the residents give up their personal rights because of the technology?

No. Firstly, residents decide by themselves which data they want to provide for evaluation to the carers. Secondly, residents can evaluate the information themselves. Thirdly, the research data is treated and analysed absolutely anonymously by the research team.



On which ethical basis is the project founded?

The project is based on two central ethical standards: firstly, the Convention for the Protection of Human Rights and Fundamental Freedoms and, secondly, the European Standards of Ethic on Ambient Assisted Living. In the project, seven special measures are put into practice that ensures the observance of these ethical standards.

Who is involved in the project?

Vorarlberg University of Applied Sciences (FHV), Austria  
Tridonic GmbH & Co. Kg, Austria  
Bartenbach Lichtlabor GmbH, Austria  
myVitali AG, Switzerland  
apollis – Institute for Social Research and Opinion Polling OHG, Italy  
YOUSE GmbH, Germany

Who supports the project?

The project is carried out as an Ambient Assisted Living Joint Programme under the seventh EU Research Programme (Article 185 Initiative) with funding by the European Union and National Funding Authorities.

How long is the duration of this project?

The project lasts from May 2012 to April 2015. The project was preceded by a preparatory phase lasting several months.

Who can give me advice if I or any of my relatives want to participate in the project in my/his /her flat?

Please contact a project partner mentioned above near your home.

Who can provide further information about the project?

Prof. Dr. Guido Kempter, Fachhochschule Vorarlberg, Hochschulstr. 1, 6850 Dornbirn, Austria.  
Phone: +43 5572 792 7300, E-Mail: [guido.kempter@fhv.at](mailto:guido.kempter@fhv.at)

Are there any additional costs arising for residents of automation-aided apartments?

Costs for apartments equipped with smart technology are the same as for apartments without such technological aids. Additional costs are met by the project budget.

Are elderly people able to cope with technology in general?

Yes. The automation is easy to handle. In addition, the residents get an introduction on handling the equipment and help if they are ever stuck.

Who assists the residents in their use of the technology if they don't know how to proceed?

Each subject is assigned an on-site personal carer.

What happens with the technology after the end of the project?

The smart technology stays in the flat after the end of the project, quasi as payment for participation in the project. Individual deviations from this arrangement are possible.

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