



## COMPETITIVENESS AND INNOVATION FRAMEWORK PROGRAMME

### ICT PSP call for proposals 2008 - ICT PSP/2008/1

Project Acronym: **Long Lasting Memories**  
Project Number: **238904**  
Project Type: **Pilot Type B**  
Project Full Title: **Long Lasting Memories**

ICT PSP Main Theme addressed: **1.4: ICT for ageing well with cognitive problems, combining assistive and independent living technologies**

### D2.5 Introductory LLM workshop report

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#### Abstract

The purpose of this Deliverable is to report on the 1<sup>st</sup> workshop held in Athens on May 20, 2010. The workshop's objectives were firstly the promotion of the project to a carefully selected wide and diverse audience to build constituencies and raise awareness on the project and secondly to receive feedback about the service and the organisation of the pilot studies. The workshop comprised the full range of issues related to the LLM service, from technical and scientific backgrounds, to pilot planning and ethics. Additionally the first hands-on demonstration of the integrated LLM service was presented. The workshop was fully video taped and the production of two videos - a promotion video and a full session video - was initiated making all information available for interest groups.

## Document History

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#1.0	17 <sup>th</sup> June 2010	Draft	Description of the project's introductory workshop
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### Withdrawn partners No.10, 11

<sup>1</sup> Please use a new number for each new version of the deliverable. Add the date when this version was issued and list the items that have been added or changed. The ~~what~~ new column will help the reader in identifying the relevant changes. Don't forget to update the version number and date on the front page and the header.

<sup>2</sup> A deliverable can be in either of these stages: ~~draft~~ or ~~final~~. For each stage, several versions of a document can be issued. *Draft*: Work is being done on the contents. *Final*: All chapters have been completed.

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## 1 Introduction

This Deliverable has the purpose to report on the 1<sup>st</sup> LLM-workshop held in Athens, 20 May, 2010. The introductory workshop familiarised a selected audience, encompassing medical and health-care providers, investors, government bodies, insurance companies as well as industry and technology providers with preliminary results of the development, integration, and pilot planning efforts. The workshop consisted of three main sessions with intermittent coffee and lunch breaks allowing room for face-to-face discussions with interested parties. The first sessions concerned the presentation of the LLM service. The second session described in detail the pilot trials and presented arising legal and ethical issues. The third session completed the workshop by a hands-on demonstration of the service.

**Figure 1** - Prof. Panagiotis D. Bamidis, the LLM project director, giving the welcome speech and introducing participants to LLM.



### 1.1 General framework

This was the first of two workshops to be held during the course of the LLM project as a part of the projects external dissemination activities. This event belongs to the dissemination stage I (Pre-piloting stage) and took place in project month 12.

## **1.2 Location**

The Workshop took place at ðCorallia ó Hellenic Technology Clusters Initiativeö in Sorou 12, Maroussi, 15125, Athens, Greece.

## **1.3 Host**

The LLM Workshop was hosted by consortium partner Athena Research and Innovation Center in Information Communication & Knowledge Technologies / Institute for Language and Speech Processing.

## **1.4 Participants**

The emphasis of the LLM co-ordination with respect to the workshop announcement was twofold. First, to increase awareness in the academic sector; this was achieved by numerous emails in the Universitiesø distribution list. Second, to advertise the event to associations of seniors and insurance companies, the first being the targeted participants in terms of trialing the service, while the second forms one of the target stakeholder types for the public-private-partnerships envisaged later in the project.

## **1.5 Promotion of the workshop**

### **1.5.1 Formal invitation**

A formal invitation (See: B. Annex B ó Formal invitation) was sent to particular interested parties from the ATHENA RC Network Of Interest list.

### **1.5.2 Public article**

On April 27, 2010 an online press release was published in PR Web<sub>uk</sub> announcing the LLM Workshop and giving contact information for interested parties.

See the corresponding announcement at C. Annex C - Promotional press release.

### **1.5.3 Newsletter**

The first LLM Newsletter addressing the LLM community invited members to participate in the projectø workshop.

See: F. Annex F ó First LLM newsletter

### **1.5.4 Web site**

On the LLM-web site there is an announcement of the workshop since October 30, 2009.

Figure 2 - Workshop web site advertising the workshop in Athens



The screenshot shows the homepage of the Long Lasting Memories website. The header features the logo on the left, a search bar on the right, and a navigation menu with links for HOME, ABOUT, PARTNERS, EXAMPLES OF USE, TRIALS, DELIVERABLES, and WIKI. Below the navigation is a language selection bar with options for English, Français, Español, Deutsch, and Ελληνικά, along with Login and Register links.

### LLM workshop in Athens, Greece, May 2010

Posted Fri, 2009-10-30 13:10 by tere

[ShareThis](#)

The first LLM Workshop will take place in Athens, Greece, on May 20-21, 2010. During the workshop, we will present in detail the integrated LLM service and its separate components to a diverse audience that is expected to include medical and health-care providers, researchers, investors, government bodies, insurance companies, industry and technology providers, etc. This variety of perspectives will enable us to address many aspects of the LLM service, from scientific validation to market deployment. We will also discuss thoroughly and receive feedback from interested parties on issues regarding the effective use of the service in different environments and the upcoming pilot studies.

Please keep visiting the site or subscribe to our newsletter through our home page to receive further information on how to participate in the workshop.

- News
- Articles
- Forum
- Contacts

#### LATEST NEWS & EVENTS

- Poster Presentation at 3rd Panhellenic and 2nd European Scientific Nursing Conference
- Poster Presentation at Medicon 2010 Conference

## **2 Objectives**

### **2.1 Raise project awareness and build constituencies**

In the context of the workshop there are different means contributing to build constituencies and raise awareness on the project ranging from media reports, public promotion videos and podcast session videos to the direct familiarisation of the LLM service. The target groups comprised medical and health-care providers, investors, researchers, government bodies, insurance companies as well as industry and technology providers. AUTH made sure that the workshop announcement was distributed to the wider research as well as medical and health care community, to selected insurance companies, and numerous industry and technology providers; in addition, the announcement was forwarded to selected senior associations based in Athens. The aim was to involve with workshop activities a selected but wide and diverse audience in the LLM information loop and thus fostering their interest.

### **2.2 Feedback**

To receive constructive feedback additional room in the agenda allowed for thorough discussions and feedback about effective use of the system in different environments and the organisation of the pilot studies.



## 3 Content

The workshop consisted of three main sessions. The first session gave an overview and a basic rationale of the LLM service and presented in detail the different integrated LLM components together with their scientific and technical backgrounds. In the second session the pilot deployment plan was presented which included the review of the scientific protocols and outcome measures as well as legal and ethical issues. The third session represented the first feasible hands-on demonstration of the integrated LLM components to a selected audience.

### 3.1 Session 1: Presentation of the LLM service

#### 3.1.1 Overview and basic rationale of the LLM service

A brief overview of the LLM service and the basic rationale was presented by Prof. Panagiotis D. Bamidis, the LLM project director and Prof. Sokratis G. Papageorgiou, local LLM responsible at NKUA. The first part presented a brief introduction to the LLM service outlining the service's main objectives, the different LLM components and the pilot trials.

**Figure 3** - Prototypical design idea of the three integrated LLM components



The second part introduced the concept of mild cognitive impairment (MCI). After showing the feasibility of MCI diagnosis data was shown depicting the relatively high prevalence and incidence rate of MCI in elderly people. Furthermore, research results showing strong markers to predict the conversion of MCI to dementia were presented. These include clinical, neuropsychological, imaging and biological markers which may be most powerful and clinically relevant when combined giving the potential to

specifically treat the population at risk. Finally there is no specific disease modifying treatment that has yet been shown to be effective. Taking these three arguments together it highlights the potential relevance of the LLM service.

### **3.1.2 LLM components and their technical and scientific backgrounds**

The presentation of the LLM components –Cognitive Training Component, –Physical Training Component and –Independent Living Component were held respectively by Prof. Athanassios Protopapas (Athena RC) & Dr. Manuel Franco (Intras), Mr. Antonis Billis (AUTH) and finally Mr. Walter Hlauschek (RALTEC).

#### **3.1.2.1 Cognitive Training Component ó CTC**

The first part of the presentation explained the rationale of the main cognitive training which uses an adaptation of the Brain Fitness Program - a plasticity-based adaptive cognitive training program - developed by Posit Science. A 40-hour intervention of the original version could already show transfer effects on measures of memory and attention in a multisite randomized controlled double-blind trial (Smith et al. 2009). Furthermore, a cognitive training and rehabilitation program called GRADIOR was presented. The system ó developed by INTRAS foundation ó adopts flexibly to specific user needs. The software contains exercises involving attention, memory, orientation, language, executive functions, perception and psychomotor functions. All results are saved allowing to give feedback to users and therapists. It is easy to adopt to multiple languages and will be used in Spanish and French trial sites. Currently, a internet version of the system is in production.

#### **3.1.2.2 Physical Training Component (PTC)**

The presentation described initially the PTC rationale and outlined well-documented beneficial effects of physical activity on cardiovascular health, reducing the risk of falling, improving cognition and affect. Additionally the targeted types of exercise were depicted including endurance, strength, balance and flexibility. The PTC has been developed in a system named FitForAll, which comprises an exergaming platform, developed by members of the LLM consortium (AUTH) and represents a collection of computer assisted physical activities and games using Wii peripherals (e.g. Wii Balance Board and Wii Remote©) in combination with custom training equipment such as dumbbells, gym rubbers and mini bikes.

For more information regarding the FFA platform watch the promotion video at the following url: <http://kedip.med.auth.gr/fitforall/>

#### **3.1.2.3 Independent Living Component (ILC)**

The presentation showed clearly currently unused technological potentials to increase safety and quality of live of elderly people which could lead to a prolongation of

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autonomous living. It was shown that the Ambient Assisted Living (AAL) based solution eHome has the potential to reach these objectives especially by automatic fall detection with integrated emergency alarm and easy-to-use communication and information tools.

### **3.2 Session 2: Pilot programme and legal & ethical issues**

The second session consisted of two main sections. Nancy Baker, Chief Operating Officer of GSI, held the first section presenting detailed information about the general LLM pilot programme, the pilot execution and pilot quality management. The second section specified all pilot trials by country and their unique legal and ethical issues. It was held by Christos Frantzidis (Greece), Walter Hlauschek (Austria), Dr. Efthyvoulos Kyriacou (Cyprus), Philippe Uziel (France) and Manuel Franco (Spain).

The first section initiated with the presentation of the pilot programme encompassing the objectives, methodology, key metrics and key elements to guide pilot conduct. Then the different aspects of pilot execution were depicted consisting of the different phases of pilot activities, the pilot programme environment, screening criteria, documentation and training. The last part of the first session outlined the efforts to ensure pilot quality.

The second section presented for each trial site a detailed description of pilot site profile, unique elements of pilot study, pilot conduct and protocol, legislative requirements and ethical guidelines relevant to their country's deployment of the system.

### **3.3 Session 3: Hands-on demonstration**

There were several iterations of hands-on demonstrations presenting the LLM service to groups of participants (cf. Fig. 4). This way many participants were able to try the LLM systems functionality including all subcomponents (ILC, PTC, CTC) by themselves (cf Fig 5). The visual representation of the system and handling of the menus was commended and considered to be suitable for elderly people. Although the introduction time was very short, none of the participants had trouble navigating through the menus and using the services. The services were nearly in a pre-pilot ready state, worked stable and gave an impressive demonstration of the integrated efforts over the first 12 project months. The participants' feedback was largely positive, especially the PTC components gathered a lot of attention and was an attraction pole that nearly no participants missed out. The CTC component was only shown as demonstration, since the time needed to experience the training was too high to allow a larger number of participants a hands-on possibility.

**Figure 4 6** Some of the external participants trying the three LLM components [with Panos Bamidis (LLM Project Director, centre) and Philippe Uziel (ESENIORS, left)]



**Figure 5 -** Senior participants trying PTC component.



## 4 Workshop evaluation and outcomes

In the workshop context the consortium used different means to raise awareness on the project and build constituencies ranging from media reports, public promotion videos and pod cast session videos to the direct familiarisation of the LLM service during the workshop. Feedback from the users was recorded informally by short interviews after they had tried the LLM components. Parts of this feedback were recorded in video sessions.

### 4.1 Addressed audience

The workshop was attended by 50 of 100 invited participants. To tackle the low attendance mainly caused by a contemporaneous nationwide 24-hour general strike and the following transportation problems the workshop was fully video taped and the production of two videos - a promotion video and a full session video - was initiated making all information available for interest groups.

### 4.2 Workshop videos

#### 4.2.1.1 Podcast session videos

Podcast session videos including each speaker and each powerpoint presentation are currently under preparation. These podcasts/vodcasts will be designed on the notion of <http://videlectures.net>, where video and powerpoint are combined (e.g. [http://videlectures.net/eswc2010\\_heath\\_ldnw/](http://videlectures.net/eswc2010_heath_ldnw/)) with video on one side and slides on the other one. These sessions will be uploaded to the LLM website once completed.

#### 4.2.1.2 Promotion video

During the workshop, each presentation and hands-on demonstration of the LLM components was filmed using two high-definition cameras. Based on these recordings, ATHENA R.C. prepared a short 9-minute project promotion video after the end of the workshop which included:

- a brief demonstration of critical demographics/statistics with regard to the elderly populations that highlighted the importance of the envisaged LLM service
- a brief description of the LLM service
- a more detailed description of each separate component of the LLM service. For each separate component relevant parts of the presentations and the hands-on demonstrations were shown.

The video was sent to partners for comments and then was uploaded in YouTube (<http://www.youtube.com/watch?v=OBKji-nmGlo>); a channel was also created in

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YouTube where all relevant videos from LLM will be uploaded in the future too. Similarly, all videos (some currently under production) will be uploaded into the project.

### **4.3 Media reports**

Media coverage was scheduled also post-workshop with related announcements and articles organised by different LLM partners for either press releases or short interventions in radio stations (see for example AUTH placed a related announcement in the local press:

[http://www.dramina.gr/index.php?option=com\\_content&view=article&id=3290:-----a--a-----a----alzheimer&catid=46:2008-11-22-17-07-18&Itemid=79](http://www.dramina.gr/index.php?option=com_content&view=article&id=3290:-----a--a-----a----alzheimer&catid=46:2008-11-22-17-07-18&Itemid=79)

See the corresponding announcement at D. Annex D ó Media report

### **4.4 Feedback**

AUTH has questioned users with respect to the PTC component FFA. Informal feedback indicated that it is certainly an enjoyable tool, easy to be handled by senior citizens, and something that it is certainly worth of trying. Participants from Insurance stakeholders wanted to know whether there will be any precautions as to the level of safety; it was clarified that FFA would make sure that a safe layout will be used in the LLM system; obviously things will be properly certified for related issues when it comes to a release of a marketable service.

### **4.5 Demonstration of the project's progression**

Another outcome of the workshop represents the feasibility of the first hands-on demonstration underlining the project's progression to a state which allows the upcoming launch of the pre-pilot study. Arrangement of LUI menus, size and placement of buttons and the general workflow was considered to be suitable for elderly. The PTC training demos were commended to be fun to train and easy to learn. The ILC component was noted as a step towards the right direction in elderly care and hence promising for the near future.

See section 3.3. for detailed information

## 5 Material

In this section there is a collection of the workshop material comprising the workshop agenda, links to the FitForAll & workshop web sites and the workshop videos.

### 5.1 Agenda

Table 1 - Agenda

Thursday 20/05/2010 - WORKSHOP				
TIME	Duration	THEME	Responsible	Expected result
09:35	15'	Registration		
09:50	115'	1/3 - What is the LLM service? Why use it? Scientific and technical issues		Highlight the social need for a unified solution to senior mental and physical health and safety - Link with EU - Present LLM components
	15'	Welcome to the 1st LLM Workshop - Brief presentation of LLM	Panos Bamidis - LLM project director	Familiarisation with the LLM
	35'	MCI in the elderly: Diagnosis and risks of conversion	Sokratis G. Papageorgiou	
	50'	Demonstration of LLM service		Presentation of each component (CTC, PTC, ILC)
		a) Cognitive Training Component	A thanassios Protopapas, Manuel Franco	detailed presentation of CTC (Brainfitness, GRADIOR) - scientific issues, describe the training programs, show demos
		b) Physical Training Component	Antonis Billis	detailed presentation of PTC - demos
		c) Independent living Component	Walter Hlausehek	detailed presentation of ILC - demos
	15'	Discussion	ALL	Receive feedback, Q&A
11:45	20'	Coffee Break		
12:05	80'	2/3 LLM Deployment Plan		Present the upcoming pilots, discuss about european and national regulatory framework
	50'	Pilots	Nancy Baker	Present the upcoming pilots
		Austrian		
		French		
		Greek		
		Spanish		
	15'	Legal and Ethical Issues	Nancy Baker	Discuss legal and ethical issues
	15'	Discussion		Receive feedback, Q&A
13:25	75'	Lunch Break		
14:40		3/3 LLM Hands-On		Show components of LLM service
End of Workshop				

## 5.2 Links

### 5.2.1 Videos

<http://www.youtube.com/watch?v=OBKji-nmGlo>

### **5.2.2 Workshop web site**

<http://www.longlastingmemories.eu/?q=content/llm-workshop-athens-greece-may-2010>

### **5.2.3 FitForAll (FFA) website**

<http://kedip.med.auth.gr/fitforall/>



## **6 Conclusions**

The workshop presented strong motivations for the LLM service to a carefully selected audience. The LLM service and its scientific background was depicted and explained. Furthermore, the pilot sites were introduced and their study design described. Finally, there was a hands-on presentation of the LLM system and its components. The relatively low attendance - at least partly caused by a contemporaneous nationwide 24-hour general strike and the following transportation problems - was tackled by fully videotaping the workshop. Thus initiating the production of a promotion video and a full session video making all given information available for potential interest groups. Additionally the workshop was the first opportunity to share the results of twelve month efforts by a hands-on demonstration which underlined the project's progression to a state which allows the upcoming launch of the pre-pilot study. The feedback of the external participants was good enough at this early stage of the project, but may be said that it is already powerfully indicating the envisaged marketability of the LLM service.

## A. Annex A - Workshop slides

### A.1 Session one ó LLM service presentation



# Long Lasting Memories (LLM)

**A unified solution for cognitive and physical health and  
autonomous living for senior citizens**

**CIP-ICT-PSP.2008.1.4  
Project No. 238904**

**Panos Bamidis  
Lab of Medical Informatics  
Medical School**

**Aristotle University of Thessaloniki,  
Greece**



## Topics

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- What is LLM
- The components of LLM
- The LLM trials

## What is LLM ?

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- Long Lasting Memories (LLM) is an integrated ICT platform which:
  - combines state-of-the-art cognitive exercises
  - with physical activityin the framework of an
  - advanced ambient assisted living environment.



## LLM General Overview

- LLM will offer support to elderly people and their relatives and families, by
  - monitoring of day to day activities of senior citizens and identifying imminent hazards,
  - helping them maintain their functionality in everyday tasks and communication,
  - increasing their self-esteem and alleviate symptoms relevant to cognitive decline, their loneliness and potential depression.



## LLM Objectives

Integrate two existing ICT solutions with physical training equipment, thus delivering innovative ageing-well / independent-living support services for elders

Demonstrate the significant impact potential of LLM service in different EU countries



Verify the technical, organisational and legal feasibility of LLM service along the complete value chain of stakeholders

Verify the sustainability, scalability and applicability of LLM services across Europe

## LLM Platform

### LLM Components

Independent Living Component (ILC)

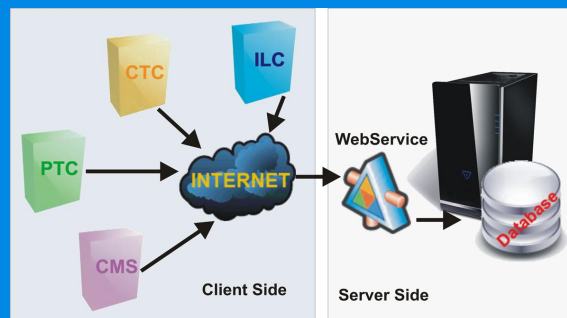
Cognitive Training Component (CTC)

Physical Training Component (PTC)

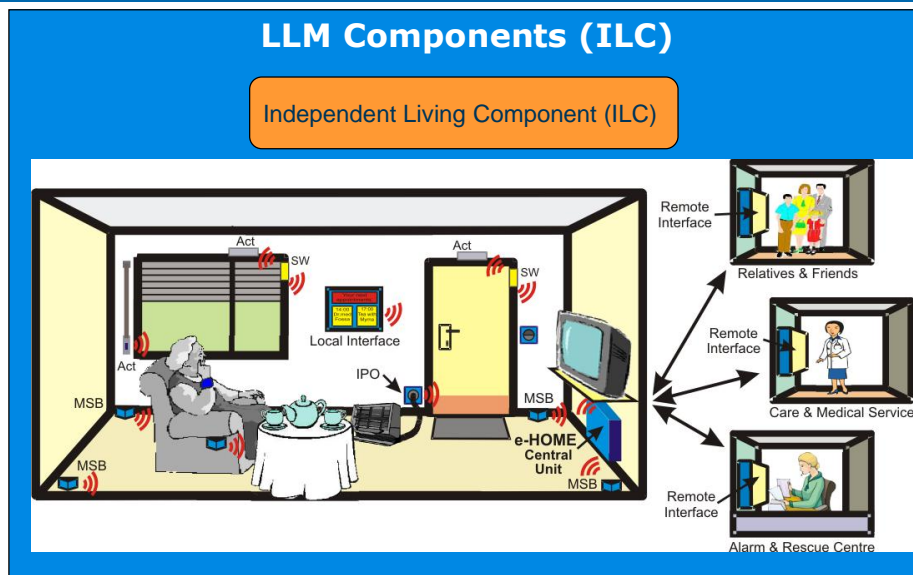
Central Management System(CMS)

## LLM Platform

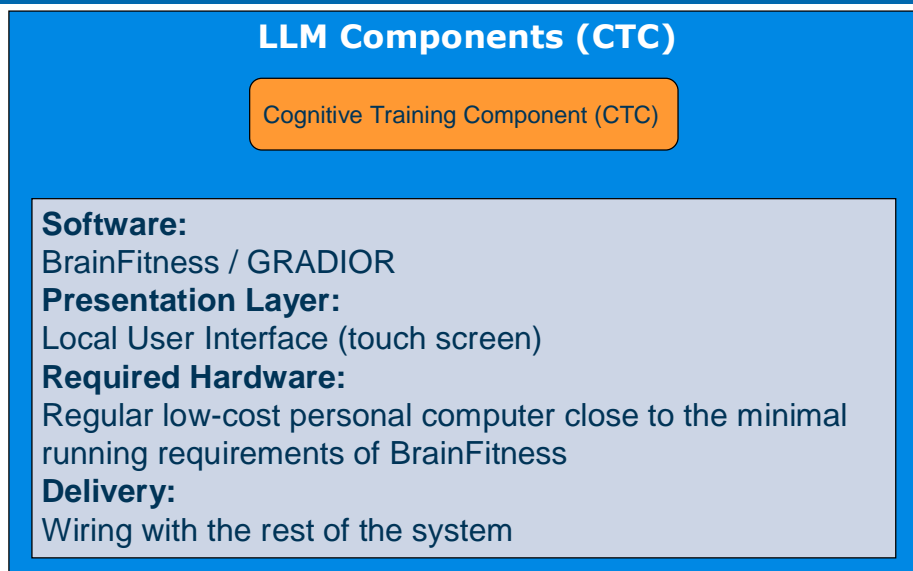
### LLM Integration Architecture



## LLM Platform



## LLM Platform





## LLM Platform

### LLM Components (CMS)

Central Management System (CMS)

- Core element of LLM service – Custom developed software
- PC operation
- Control of physical training process and cognitive exercise program
- Successive alternation of User Interfaces of the three components
- Authentication process



## LLM Platform

The aim is to implement a platform that is:

Easily Accessible

Widely Available

Affordable for end users and  
care providers

LLM Platform will be evaluated through trials.

## LLM Design Idea



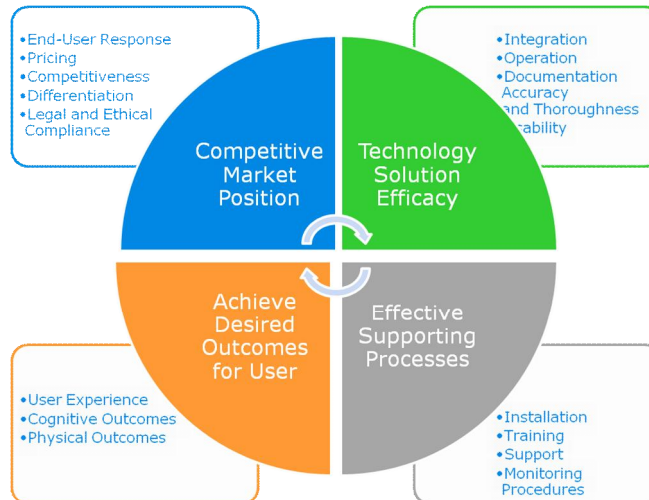
## The Pilots

### Pilots in 5 countries

- Austria 
- Spain 
- France 
- Greece 
- Cyprus 



## The Pilots Key Pilot Objectives and Indicators

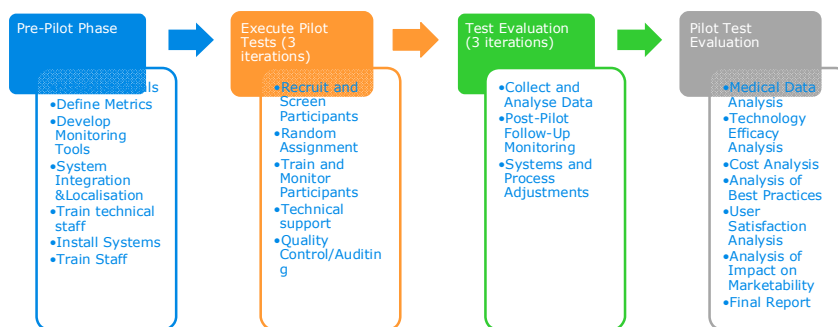


## The Pilots Pilot Design and Execution

- “ Pre-Pilot Planning: Detailed design of the pilot programme, including:
  - “ Establish metrics-based objectives for the pilots
  - “ Define methods for data collection and analysis
  - “ Training (technical and process)
  - “ Logistics
  - “ Development of quality control/auditing process
  - “ Development of all feedback mechanisms and procedures
  
- “ Pilot Test Phase
  - “ Pilots conducted in each country, scheduled to align with planned iterations
  - “ Technology deployment
  - “ Training
  - “ Pilot Iterations

## The Pilots Post Pilot Review and Timeline

- “ Analysis of all results
  - “ Technology Solution
  - “ Usability
  - “ Health (physical and cognitive results)
  - “ Marketability



## Indicators – Technology / Usability

- “ Successful technology installation in the field is completed by trained staff within scheduled time frames
- “ Number of technical support calls for non-training issues is within established threshold
- “ Comparison of log files and system responses
- “ End-user satisfaction levels regarding usability of the technology are within established threshold (interviews / questionnaires)
- “ End-user satisfaction levels regarding form attractiveness (interviews / questionnaires)

## Indicators – health impact

- “ End-user compliance with specified programme is within established target range.
- “ End-users meet or exceed defined outcome measures:
  - primary (neuropsychological testing)
  - secondary (real-world functionality outcomes).
- “ Primary efficacy endpoint:
  - Improvement of experimental group in standardized cognitive function and cognitive/motor activity in daily living relative to control groups.
- “ Key secondary endpoint:
  - Quality of life related to improvement in cognitive, motor and social function indices and autonomy.
  - Changes in abnormal brain waves that correlate with mild cognitive decline and dementia (MEG / EEG).

## Indicators – marketability

- “ Technical staff, with defined minimum skill level, is able to effectively install the system without additional training
- “ Reported technical problems are addressed on a timely basis
- “ Based upon questionnaires and interviews, pilot organisations and end-users report a high level of satisfaction with the use of and results from the solution
  - user-friendliness, usability, safety features, usefulness of actuators, correspondence to users' perceived needs
- “ Pricing of the solution is competitive
- “ Solution deployment is delivered in a range of different elder care environments
- “ Solution is sufficiently differentiated as compared to other solutions ... thereby providing competitive advantages



**For more information**

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**[www.longlastingmemories.eu](http://www.longlastingmemories.eu)**

**Become an LLM community  
member and stay connected!**

[bamidis@med.auth.gr](mailto:bamidis@med.auth.gr)

The missing workshop slides will be available soon on the LLM web page:  
[www.longlastingmemories.eu](http://www.longlastingmemories.eu)

## **B. Annex B ó Formal invitation**



Project  
Workshop  
20 May 2010  
Athens  
Long  
Lasting  
Memories



## INVITATION

We are pleased to invite you to participate in the Long Lasting Memories Scientific Workshop, which will be held in Athens on Thursday, 20 May 2010. This first of two workshops will present the preliminary results of the development, integration, and pilot planning efforts of the consortium leading up to the launch of the five-country trials. The workshop will look at the full range of issues related to the LLM service, from policy matters such as ethics, to technical and scientific concerns, to logistical and commercialization issues. The workshop will feature:

- Hands-on demonstrations of the Independent Living, Physical Training, and Cognitive Training Components of the LLM system
- Detailed review of the scientific protocols and outcome measures
- A look ahead at issues related to successful market introduction for the LLM service in Europe

Long Lasting Memories (LLM) is a project funded by the European Commission, whose focal point is a pilot programme being conducted in 5 countries (Austria, Cyprus, France, Greece and Spain). The pilot is designed to obtain information that will be utilised to assure the efficacy of the LLM service as well as to provide input to planning for commercial market introduction. As a part of this programme, adults aged over 65 will participate in physical and cognitive training, enabling the collection of scientific information about the effects on cognitive health.

LONG LASTING MEMORIES (LLM) is a 30-month project, selected for funding under the Competitiveness and Innovation Framework Programme (ICT PSP/2008/1) which aims to integrate and deliver an effective programme for the enhancement of physical and cognitive health in the elderly, enabling them to live an independent, healthy lifestyle.



The LLM consortium includes the project coordinator, Aristotelio Panepistimio Thessalonikis/Medical School (GR), and project partners, Athena Research and

Innovation Center in Information Communication & Knowledge Technologies / Institute for Language and Speech Processing (GR), CEIT RALTEC gemeinnuetzige GmbH (AT), E-SENIORS: INITIATION DES SENIORS AUX NTIC ASSOCIATION (FR), Fundacion INTRAS (ES), GENIKO NOSOKOMEIO ATHINAS IPPOKRATEIO / Health Centre Vyronas (GR), Global Security Intelligence (UK), Investigacion y Desarrollo Informatico EIKON SL (ES), Tero Ltd (GR), and Universitat Konstanz (DE).

Please fill in the form of participant and e-mail it to Eleni Vlahou (evlahou@ilsp.gr). Please note that you will receive confirmation upon registering. *If you do not receive this within 3 days of registering, please contact us again.*

[www.longlastingmemories.eu](http://www.longlastingmemories.eu)

NAME: \_\_\_\_\_

AFFILIATION: \_\_\_\_\_

\_\_\_\_\_

Tel.: \_\_\_\_\_ Fax: \_\_\_\_\_

E-mail: \_\_\_\_\_

I would like to take part in the Workshop

\_\_\_\_\_

Signature

\_\_\_\_\_

Date

**Date:** 20 May 2010

**Venue:**

**Registration Policy:** Due to limited places please note that we reserve the right to limit the number of people attending LLM events based on a first-come first-served basis. There is no fee for attending the workshop. The Commission and the LLM project will not reimburse expenses to participants.

**For further information please contact:** Eleni Vlahou (evlahou@ilsp.gr)



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## C. Annex C - Promotional press release



### **Long Lasting Memories Project to Demonstrate Innovative Solution for Elderly Cognitive Health at Workshop in Athens**

*The Long Lasting Memories (LLM) Project, with funding from the European Commission under the Competitiveness and Innovation Framework Programme (ICT PSP/2008/1), will hold a workshop in Athens on Thursday, 20 May 2010 to demonstrate progress on an innovative solution to enhance elderly cognitive health. This is the first of two workshops to be held during the course of the LLM project, and it will present the preliminary results of the development, integration, and pilot planning efforts of the consortium leading up to the launch of the five-country trials.*

London, UK ([PRWEB](#)) April 27, 2010 -- The Long Lasting Memories (LLM) Project, with funding from the European Commission under the Competitiveness and Innovation Framework Programme (ICT PSP/2008/1), will hold a workshop in Athens on Thursday, 20 May 2010 to demonstrate progress on an innovative solution to enhance elderly cognitive health. This is the first of two workshops to be held during the course of the LLM project, and it will present the preliminary results of the development, integration, and pilot planning efforts of the consortium leading up to the launch of the five-country trials.

The workshop will look at the full range of issues related to the LLM service, from policy matters such as ethics, to technical and scientific concerns, to logistical and commercialization issues. The workshop will feature hands-on demonstrations of the Independent Living, Physical Training, and Cognitive Training Components of the LLM system, a detailed review of the scientific protocols and outcome measures, and a look ahead at issues related to successful market introduction for the LLM service in Europe

Kush Wadhwa, Managing Director of Global Security Intelligence (GSI), noted that "this is the first real opportunity for us to share the results of the integration and planning activities that have made this solution ready for pilot testing. We expect that the work we are doing will be of great interest to both the scientific community and to commercial concerns whose strategy is focused upon serving the needs of the growing population of elderly citizens. We expect not only to present our own work, but to engage with stakeholders in preparing for the effective dissemination of results of the trials, and looking forward towards making the LLM solution available on a commercial basis."

The LLM Workshop is being hosted by consortium partner Athena Research and Innovation Center in Information Communication & Knowledge Technologies / Institute for Language and Speech Processing, and will take place at the National Hellenic Research Foundation in Athens. For more information about the workshop, including a detailed agenda and formal invitation to join the workshop, contact Ms. Eleni Vlahou ([evlahou@ilsp.athena-innovation.gr](mailto:evlahou@ilsp.athena-innovation.gr)).

#### About Global Security Intelligence Limited

Global Security Intelligence (GSI) is a London-based research consultancy, which performs integrative research for secure and autonomous living, taking an holistic approach to understanding how current and emerging technologies impact individuals, organisations, and governments. GSI is focused upon addressing the effective uses of ubiquitous, ambient technologies which enable ageing, disabled, or chronically ill individuals to live

independent and socially active lives, including work with assistive technologies, innovative sensors and surveillance systems, telemedicine solutions, and robotics. GSI's work ranges from policy-level initiatives to practical deployment projects.

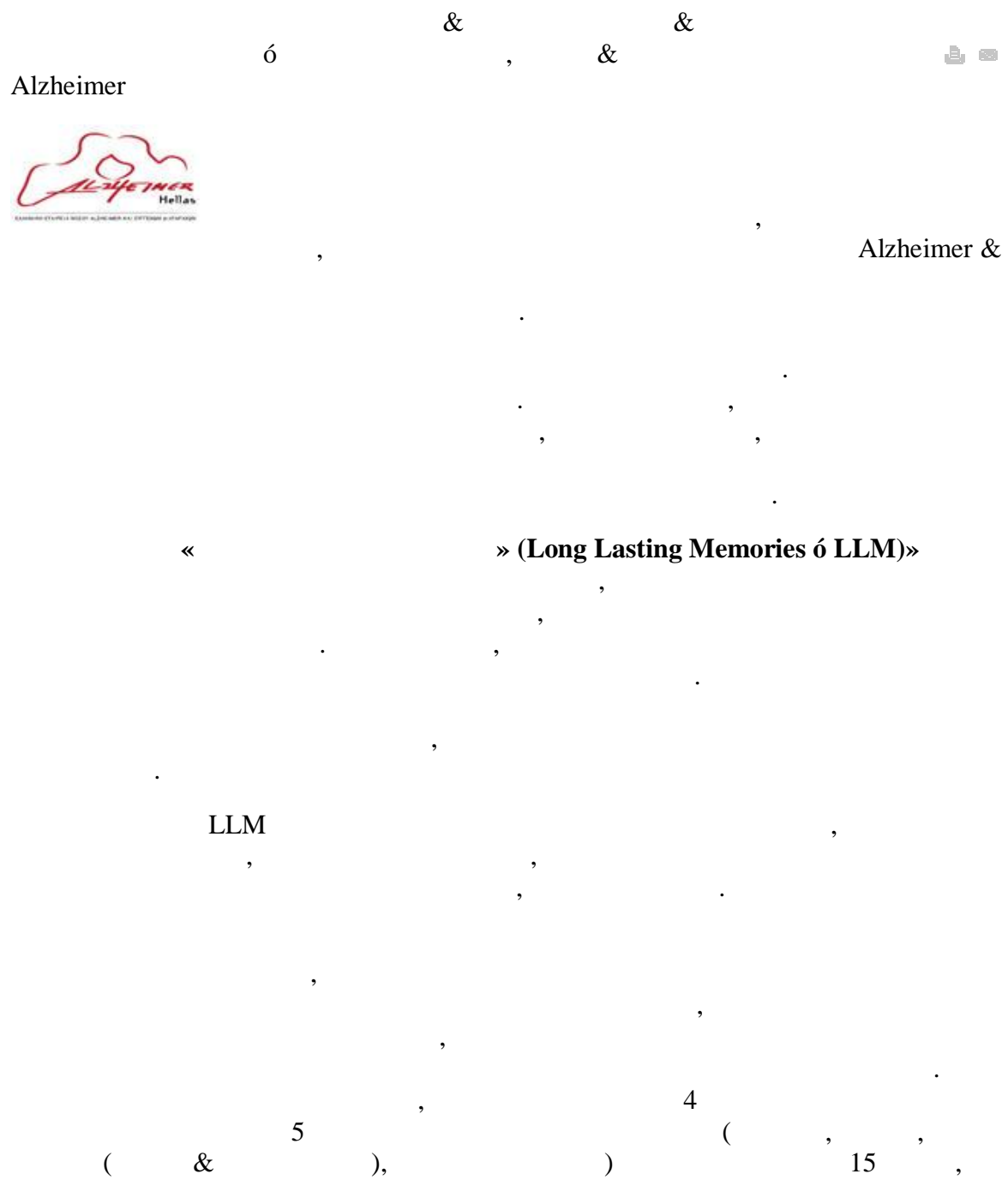
#### About LONG LASTING MEMORIES

LONG LASTING MEMORIES (LLM) is a 30-month project, selected for funding under the Competitiveness and Innovation Framework Programme (ICT PSP/2008/1) which aims to integrate and deliver an effective programme for the enhancement of physical and cognitive health in the elderly, enabling them to live an independent, healthy lifestyle. [www.longlastingmemories.eu](http://www.longlastingmemories.eu)

The LLM consortium includes the project coordinator, Aristotelio Panepistimio Thessalonikis/Medical School (GR), and project partners, Athena Research and Innovation Center in Information Communication & Knowledge Technologies / Institute for Language and Speech Processing (GR), CEIT RALTEC gemeinnuetzige GmbH (AT), E-SENIORS: INITIATION DES SENIORS AUX NTIC ASSOCIATION (FR), Fundacion INTRAS (ES), GENIKO NOSOKOMEIO ATHINAS IPPOKRATEIO / Health Centre Vyronas (GR), Global Security Intelligence (UK), Investigacion y Desarrollo Informatico EIKON SL (ES), Tero Ltd (GR), and Universitat Konstanz (DE).

## D. Annex D - Media report

Published report about LLM service by Dramina.gr:



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<http://www.longlastingmemories.eu>.

## E. Annex F ó First LLM newsletter

Dear [xxx],

Long Lasting Memories (LLM) [[link to http://www.longlastingmemories.eu](http://www.longlastingmemories.eu)] is a European Union project developing an integrated ICT platform which combines state-of-the-art cognitive exercises with physical activity in the framework of an advanced ambient assisted living environment.

This news alert will:

1. introduce you to the **LLM project** [[link to text below](#)],
2. present you the components of the **LLM service** [[link to text below](#)],
3. invite you to participate in the project's **first workshop** [[link to text below](#)],
4. inform you on the **LLM trials** [[link to text below](#)],
5. inform you on a recent scientific study that **proves the effectiveness** of LLM service components [[link to text below](#)].

I hope you will enjoy reading this news alert. We plan to send you not more than 3-4 such alerts until the end of the project (in the next two years). If you do not wish to receive them, please reply to this email with the word REMOVE in the subject line.

The coordinator

Panagiotis D. Bamidis, Assist. Professor,

Medical School, Aristotle University of Thessaloniki

### 1. The LLM project

The LLM project [[link to http://www.longlastingmemories.eu](http://www.longlastingmemories.eu)] runs from June 2009 to February 2011, and is partially funded under the ICT Policy Support Programme (ICT PSP) as part of the Competitiveness and Innovation Framework Programme by the European Community.

By combining cognitive exercises and physical activity LLM delivers an effective countermeasure against age-related cognitive decline, thus actively improving the quality of life of the elderly. The LLM service can be installed in individual homes, day care centres, or more formal medical settings, enabling personalized and monitored physical and cognitive training of its users.

The LLM consortium includes a multidisciplinary team of partners [link to <http://llmproject.web.auth.gr/?q=og-all>] encompassing a broad spectrum from technology development to service providers.

## 2. The components of the LLM service

The LLM service is designed to comprise of three existing interoperable components [link to <http://llmproject.web.auth.gr/?q=content/technology>] which perform complementary and interactive tasks to provide the system's services:

- The **Independent Living Component (ILC)** is based on the eHome system, which is a network of distributed, wirelessly-operating sensors connected to an embedded system (the e-Home central unit). It includes features such as intelligent learning of normal and exceptional patterns of behaviour (dangerous situations or indicators for emerging health problems), and relevant alarms. e-Home is a project funded by the Austrian Research Promotion Agency (FFG).
- The **Cognitive Training Component (CTC)** is designed to support cognitive exercises provided by specialised software. A variety of software can be used for this process; a careful selection and evaluation has been performed by the LLM partnership to identify the appropriate software for testing during the project and for completing customization and localization of this software as needed for the initial deployment and the pilot testing of the LLM system.
- The **Physical Training Component (PTC)** is comprised of custom training equipment, geared to meet the specialised needs of the elderly. The only prerequisite for the equipment is that it is able to provide exercise performance output. This output will be forwarded to the central LLM system for monitoring and processing.

## 3. The first LLM workshop

The first LLM Workshop will take place in Athens, Greece, on May 20-21, 2010. During the workshop, we will present in detail the integrated LLM service and its separate components to a diverse audience that is expected to include medical and health-care providers, researchers, investors, government bodies, insurance companies, industry and technology providers, etc. This variety of perspectives will enable us to address many aspects of the LLM service, from scientific validation to market deployment. We will also discuss thoroughly and receive feedback from interested parties on issues regarding the effective use of the service in different environments and the upcoming pilot studies.

You may be kept informed on the development of the agenda and other plans for the Workshop at the LLM web site [link to <http://llmproject.web.auth.gr/?q=content/llm-workshop-athens-greece-may-2010>].

#### 4. The LLM trials

Four consecutive rounds of testing will take place in 5 EU Member countries (Austria, France, Greece, Spain, and the UK) for a period of 15 months. Testing will be focused upon elderly volunteers who will provide feedback to help improve the solution to meet user expectations. Testing will be conducted in accordance with relevant regulations for the protection of the participants; all test protocols will utilise good ethical practices and comply with European and national legislation.

Testing participants, as well as end users of the service after testing is completed, will include:

- People living at their houses, utilising the LLM monitoring environment and training services (At Home installation).
- People visiting day care centres, utilising a centralised monitoring environment and using the training components as well (Day care centre installations).
- People being hospitalised in clinical centres and hospitals, utilising a centralised monitoring environment, while following the cognitive training and using the physical training component as complementary to their physiotherapy sessions (Hospital installations).

To request further information or to participate in the project trials you may visit the LLM web site [[link to http://llmproject.web.auth.gr/?q=content/trials](http://llmproject.web.auth.gr/?q=content/trials)] and contact the LLM partner in your country.

#### 5. Overview of IMPACT Study: Smith et al. (2009)

Numerous interventions for age-related cognitive decline are available. Unfortunately, improvement in cognitive function is typically limited to the directly trained skills. That is, seniors cannot use what they learn in their everyday activities outside of the lab. However, a recent large scale study by Smith and colleagues (2009) verified empirically that training with the Posit Science BrainFitness(TM) Program results in generalized improvement in measures of memory and perception in everyday life. Seniors with normal cognitive skills were trained intensively with computerized exercises that target brain systems associated with learning and memory. The exercises were specifically designed to improve the speed and accuracy of auditory and language processes. Compared to a control group who worked with other educational material for the same amount of time, seniors trained with the Brain Fitness program had significantly superior results in speed of processing, several measures of memory and attention, and self-reported improvements.

Smith, G. E., Housen, P., Yaffe, K., Ruff, R., Kennison, R. F., Mahncke, H. W., & Zelinski, E. M. (2009). A Cognitive Training Program Based on Principles of Brain Plasticity: Results from the Improvement in Memory with Plasticity-based Adaptive Cognitive Training (IMPACT) Study. *Journal of the American Geriatrics Society*, 57(4), 594-603.

## Contact

LLM is coordinated by Panagiotis D. Bamidis, Assist. Prof., Lab of Medical Informatics, Medical School, Aristotle University of Thessaloniki [<http://lomiweb.med.auth.gr/gan/bamidis/>], PO Box 323, 54124, Thessaloniki, Greece, tel: +30 2310999310. Please feel free to contact Dr. Bamidis with questions or suggestions: [bamidis@med.auth.gr](mailto:bamidis@med.auth.gr).