



Modular e-course with Virtual Coach tool support

Progress Report

Public Part

Project information

Project acronym: COACH BOT
Project title: Modular E-course with Virtual Coach tool support
Project number: 142835-LLP-1-2008-1-IT-LEONARDO-LMP
Sub-programme or KA: Leonardo da Vinci
Project website: www.coachbot.eu

Reporting period: From 01/11/2008
To 31/10/2009

Report version: 1

Date of preparation: 31/10/2009

Beneficiary organisation: Consorzio FOR.COM. Formazione per la
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This project has been funded with support from the European Commission.

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Executive Summary

This report presents the approach, results and achievements of the COACH BOT project “Modular E-course with Virtual Coach tool support”. The overall aim of the project is to address the lack of adult distance learning programmes in Europe by designing and testing an innovative e-learning methodology for adult education that combines Conversational Agent Technology (chat-bot) with an ad hoc designed modular e-learning path. The COACH BOT e-course is particularly helpful for working professionals who do a shift work and do not have extra time to enrol in training courses. The COACH BOT methodology allows trainees to customize their own personalized training paths based on their specific time, availability and training needs allowing them to successfully manage a training course amid their personal and professional life. The “Virtual Coach” supports learners “individually” during the modular e-course who acts as a teacher, coach and tutor by providing in-depth information, assessment, case studies and technical support at any time of day. The project will test the methodology on the target group of home healthcare professionals who have different educational and professional backgrounds and specific training needs. The modular e-course permits trainees to customize their learning experience by choosing course contents that are most relevant for their job depending on their profile, thus addressing an array of diverse professions within the healthcare sector.

The project partnership comprises 6 European countries: Italy, Denmark, Romania, Slovenia, United Kingdom and Switzerland. The multi-actor partnership consists of 7 organizations: Interuniversity consortium, public healthcare institution, multimedia consulting, NGO, nursing school, vocational training institutions in the health and social sector and a non-profit enterprise. All the skills required to achieve the project objectives are assured thanks the multi-actor consortium providing technological, methodological, educational, social and healthcare, communication and management expertise. In order to guarantee the project impact and sustainability, the COACH BOT approach was developed to gather continuous feedback and interaction between partners and the target group. Specific actions are foreseen to reach home healthcare professionals and involve them in the project’s development. During the first year, partners conducted research and organized special events involving the target group that contributed greatly towards the development of the project.

A Need Analysis on the European context of home healthcare assistance was conducted in each partner country and in Croatia. The research phase consisted of desk research on the comparative study of European literature, case studies and best practices concerning existing training programmes to update home healthcare service skills. Two healthcare professionals were interviewed in each country, in order to collect more in-depth information on the target group and their training needs. The subsequent report (available on the project website) contains the need analysis results identifying the target groups’ training needs that will be used to develop the e-course contents. The evaluation strategy, described in the project Quality and Evaluation Plan, covers all aspects of ‘process’ and ‘content/product’ of the project. The evaluation process incorporates both qualitative and quantitative aspects of the project in order to effectively monitor and evaluate both processes (e.g. project management) and products (e.g. training contents and methodology). In order to successfully promote the project, a comprehensive Dissemination Plan was produced to strategically involve all partners in dissemination and exploitation activities throughout the project. Dissemination materials such as multilingual brochures, posters and e-newsletters will be distributed among the target group and stakeholders over the project life cycle. In order to constantly promote the project, the COACH BOT website was created featuring a multilingual public area and a private area. (www.coachbot.eu). The project is also published on the ADAM portal (Advanced Data Archive and Management System), featuring the project’s results and products (<http://www.adam-europe.eu/adam>).

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1. Project Objectives

The overall aim of the COACH BOT project is to address the lack of adult distance learning programmes in Europe by designing and testing an innovative e-learning methodology for adult education that combines Conversational Agent Technology (chat-bot) with a modular learning path designed ad hoc. The pilot e-course addresses a target group of home healthcare professionals.

The healthcare sector is a complex system that demands extensive resources and consists of a set of integrated services and inter-collaborative health teams. Home healthcare professionals come from different educational and professional backgrounds, and thus have different gaps and training needs. The e-course modules, as well as the possibility to concentrate more on some rather than other aspects (legal, communication, etc.) depending on the profile, is well suited to this target group, which is not homogenous. The COACH BOT methodology can help solve these problems by providing home healthcare professionals with the opportunity to renew and improve their skills by using a flexible learning approach.

The project's innovative aspect consists of the development of a collaborative e-learning environment featuring a "chat-bot" or "Virtual Coach" who interacts with users through a human-like interface. The "Virtual Coach" acts as a teacher, coach and tutor, who supports learners "individually" during the modular e-course by providing in-depth information, assessment, case studies, technical and methodological support. The COACH BOT e-course is based on a personalised approach allowing home healthcare professionals, with the help of the "Virtual Coach", to customize their own training path and benefit from a suitable training path that is relevant to their profession and based on their own specific needs, knowledge and skill requirements.

In order to test the effectiveness of the "Virtual Coach", the course will be experimented by 2 different groups of users in each partner country: an experimental group (with the help of "Virtual Coach") and a control group (without "Virtual Coach"). This choice will provide a crucial added value by allowing the comparison between the 2 groups and providing meaningful data for analysing the core role of an "individual coaching" facility that instead will help the experimental group to follow, update contents and provide assistance during the e-course.

In order to guarantee that the project responds to target users' needs, the continuous and active involvement of home healthcare professionals (nurses, physiotherapist, social and care workers, doctors, homecare assistances) within the project activities has been foreseen as follows:

- *Training need analysis* of the healthcare professionals work context and training needs in different European countries;
- *First National Exploitation Seminar* organized in each partner country;
- *Testing of Virtual Coach* before the e-course experimentation phase (at least 3 home healthcare professionals involved in each partner country);
- *Experimentation of COACH BOT e-course* in each partner country (at least 17 learners involved in each partner country);
- *Evaluation of COACH BOT methodology* through the submission of an expectations questionnaire before the e-course delivery, and a customer satisfaction questionnaire after the e-course ending;
- Arrangements of *3 focus groups* in each partner country after the experimentation of the e-course, in order to gather qualitative and in-depth data on pilot application usability and transferability;

- *Second National Exploitation Seminar* arranged in each partner country to involve users in further pilot application and to spread project results;
- *Dissemination activities*: circulation of project website, brochures, posters, e-newsletters and organization of the final project international conference.

Home healthcare professionals will benefit by their direct participation to the project activities as they will be able to attend a course that they have contributed in creating; therefore, it will be customized to their real training needs and work experience. Moreover, they will be able to experiment a knowledge sharing experience during which they will discuss with colleagues of the other countries involved in the project, for the circulation and comparison of information through an effective use of ICT.

The potential short term impact of the project upon the target user group includes the following:

- facilitate the e-learning experience (in order to avoid difficulty and potentially reduce drop out) and maintaining individual motivation in ongoing updating of skills, particularly relevant for home healthcare professionals, thanks to the “Virtual Coach” main functionalities;
- promote an in depth knowledge on healthcare professionals work context at European level, through the interaction and exchange of experiences with colleagues from different European countries;
- enhance competences in the fields covered by the e-course: medical issues, psychological issues, national/EU health legislation and social and ethical aspect linked to the home healthcare work;
- narrow specific gaps perceived by each user by creating a customised training path focusing on specific topics (medical, psychological, legislation or communication skills);
- respond to adults training needs and characteristics.

The potential long term impact of the project upon the target user group includes the following:

- provide a more flexible and accessible training opportunities whereby individuals undertake self-directed learning;
- provide training opportunities for healthcare professionals allowing a cost reduction with the training delivering increase;
- support the installation and use of new IT tools for providing in-service training within healthcare institutions;
- promote individual development/sense of achievement and consequently the improvement of work performances;
- promote the improvement of specific skills of healthcare professionals ensuring compliance.

2. Project Approach

Management strategy

The project Consortium relies on an integrated management process based on coherence, sharing of results and horizontal supportive communication. The project management has been developed as cohesive system driven by effective communication and sharing of competences among partners (favouring internal contributions), with a strong capability to collect and analyse external inputs. The Decision-making process is based on consensus.

The organisational structure of the project foresees different roles and functions according to the specific needs and features of each project activity. FOR.COM. (IT), as the prime contractor of the project, is responsible for the entire management of the project and leads the Steering Committee composed of one representative from each partner organization.

Operative project management

In order to guarantee a high quality of the project outputs, specific partnership staff has been assigned to carry out the different activities according to their professional skills and expertise. For this purpose, at the beginning of project specific work teams have been identified:

- *Needs analysis and didactic Team*: researchers and trainers in charge of the development of COACH BOT curriculum and the pilot course contents;
- *Technological Team*: technicians and e-learning experts in charge of the designing and development of the COACH BOT platform and Virtual Coach, its integration, and the drawing up of the technological reports;
- *Experimentation Team*: key actors of healthcare sector, project managers in charge of the management and monitoring of the experimental and control e-courses;
- *Quality and Evaluation Team (QET)*: project managers and quality experts in charge of the definition of the quality indicators, the assessment of the COACH BOT methodology efficacy and the evaluation of the pilot application usability and transferability (follow up).
- *Dissemination and exploitation Team*: technicians and communication experts in charge of the design and set up of the dissemination and exploitation activities.

FOR.COM. has developed a Project Management Handbook that explains the planned work of the project and includes: detailed work plan, time planning, risks which could affect the success of the project, working methodology and monitoring tools, means of communication among partners and management strategy.

A key tool created and used for the project circulation of information is the project website, which includes a Private Area for partners which contains the tools, templates, guidelines, reports and deliverables of the project, and is organized in 5 sections: file repository, recorded meetings, learning objects tools, calendar and gallery. In particular, within the file repository section a folder has been created for each different phase of the project: Management, Need Analysis and Design of COACH BOT Methodology, Technological Design, Production, Experimentation, Quality and Evaluation Process, Exploitation and Dissemination.

Organization and holding up of plenary and virtual meetings

Special attention has been devoted to the organization of plenary and virtual meetings, as they are important moments in which partners discuss the status of the project activities and also plan the future ones.

The Meeting Agenda and the pertinent documents, have been sent out to all partners in advance, so as to allow them to be able to organize the useful documents and to suggest changes, integrations and comments. During the meetings, all documents and materials related to the Agenda are handed out to all partners and organized in a meeting folder. All partners fill out a questionnaire for the evaluation of the meeting. Furthermore, following the meetings, detailed Minutes, focusing on the topics discussed, results reached and deadlines, are sent to all partners involved.

Monitoring and reporting activity

All partners are actively involved in the ongoing monitoring procedure with respect to deadlines and the project goals. The following are the main monitoring tools created by FOR.COM. (IT) in close cooperation with all partners: project time-sheet template, quarterly cost certification template, meeting minutes template, conference report template and mid-term results report template.

Evaluation strategy

The Quality and Evaluation Team (QET) is composed of partner staff and an external quality expert (devoted to the carrying out the external evaluation process and to contribute to the project's outputs evaluation). The project evaluation strategy and process is based on the assumption that it should cover all representative aspects of 'process' and 'content/product'. In fact, the evaluation process deals with both qualitative and quantitative aspects of the project and it is devoted to monitor and evaluate both process (e.g. project management) and products (e.g. training contents and methodology). The project evaluation process has been described in detail in the Quality and Evaluation Plan, and includes the following main steps:

- *Evaluation of project outputs:* is related to the respect of quality criteria during project activities. To assess the quality of project outputs and the grade of achievement of the project results, an evaluation grid has been designed to be submitted to all partners for each outputs carried out. The evaluation of project outputs will be carried out regularly throughout the whole project duration.
- *External evaluation:* Since the project management is a critical activity that influences the success of all project activities and the project mid-term and final results achievements, the evaluation process includes an external evaluation, as a specific task for evaluating and monitoring the project management activity. For this purpose, FOR.COM. selected an External Quality Expert who is involved in the external evaluation process and that will contribute at the identification of the evaluation strategy, critical issues and risks related to management process and the working out of the properly corrective actions. The following specific tools have been designed in order to collect the management evaluation data, assess the quality management activity and analyse the critical issues: evaluation grid, meeting minutes and meeting questionnaire. The external evaluation will be carried out regularly during the whole project duration.
- *Evaluation of COACH BOT methodology:* aims at evaluating the pilot application efficacy and effectiveness. Specifically, two questionnaires will be designed and submitted to both control and experimentation learners groups (an expectations questionnaire – at the beginning of the course – and a customer satisfaction questionnaire – after the e-course).
- *Follow up:* the project follow up aims at evaluating the pilot application further development and transferability through the arrangement of focus groups among learners. Three focus groups will be arranged in each country (the 1st among experimental group users, the 2nd among control group users and the 3rd in a mixed group with both users of the experimental and control group).

Dissemination and Exploitation strategy

The project partnership agreed on a specific and structured strategy for dissemination and exploitation activities, with the aim of making the progress of the COACH BOT project accessible to the most extensive audience possible. The dissemination strategy was designed to obtain major project results and increase project visibility among the target group and stakeholders, in terms of promoting the project objectives, mid-term results and the state of the art of the project. The project Dissemination Plan details the multiple dissemination strategies addressing different types of target groups through the use of diverse tools:

- *Paper strategy:* multilingual brochures and posters were produced to illustrate the project's objectives and activities. Since these tools provide instant information and are easy to distribute, they are mainly target local, regional and national healthcare authorities, associations providing healthcare services and potential course participants in order to promote their participation to the e-course. Meanwhile, papers and articles containing more technical language address the community of researchers and engineers interested in the application of ICT in the field of education. Some papers and articles have been written by the partners and published in national and international magazines.
- *Internet strategy:* aims at promoting the project through the official project website, the production of the COACH BOT e-learning platform demo (addressed to e-course users) and quarterly e-newsletters promoting the project to local stakeholders.
- *Event strategy:* aims at promoting partner participation in key thematic national and international events and the COACH BOT final international conference to present the project results and share information and best practices in the field. The partnership has participated in different national and international conferences to present the COACH BOT project, through the submission of detailed papers and articles. Two National Exploitation Seminars are foreseen in each partner countries to reach and involve target groups. FOR.COM. (IT) organized the first event on September 30th, 2009 in Rome, Italy.

In order to guarantee the project impact and sustainability, the COACH BOT approach was developed to gather continuous feedback and interaction between partners and the target group. Specific actions are foreseen to reach home healthcare professionals and involve them in the project's development. The partnership created a COACH BOT database of contacts (including mail and e-mail addresses of about 150 contacts for each country involved) consisting of local, regional and national healthcare authorities, associations providing healthcare services, home healthcare professionals, secondary schools of health care sector, vocational training agencies and universities of applied science etc. The project's brochure and the e-newsletters were mailed to them. The database will be regularly updated during the whole project duration and all the contacts, in each country involved, will receive invitations to all events organized by the partners within the COACH BOT project and the new e-newsletters. During the first project year, each partner involved some representatives of the target group to actively take part in the designing and development of the project course and innovative methodology by sending out questionnaires, organising events or distributing information materials.

Home healthcare professionals who participated to the first National Exploitation seminar in Rome (IT), have been active involved through the organization of focus groups and the submission of expectation questionnaires. Three representatives of target group in each partner countries will be involved in the testing of COACH BOT methodology (e-platform plus virtual coach) before the e-course experimentation phase and three focus groups will be also arranged among e-course participants, after the e-course experimentation, during the project follow up in order to evaluate the pilot application further development and transferability.

3. Project Outcomes & Results

During the first year of activities, the partnership achieved the following outcomes and results:

Management

- *Project Management Handbook*: represents the planned project activities, as well as a detailed work plan, timed planning, risks which could influence the proceeding of the project, working methodology and monitoring tools, means of communication among partners and management strategy. It is available in the project website private area.
- *Report about mid-term results*: includes activities realized during each phase of the project by each partner and the results and products achieved. It is available in the project website private area.
- 1st Annual workshop with EACEA Agency, Brussels, 15 December 2008.

Kick off Meeting:

- Project Kick off Meeting, hosted by FOR.COM. (IT), Rome, 20-21 November 2008.
- Bilateral Kick off Meeting between FOR.COM. and SOSUAarhus (DK), Rome, 22 December 2008.

Project Interim Plenary Meetings:

- Technological/Didactic Team Meeting, Rome, 14 January 2009, hosted by FOR.COM.
- Technological/Didactic Team Meeting, Rome, 20 April 2009, hosted by FOR.COM.
- Plenary Interim Meeting, Bucharest, 14-15 May 2009, hosted by Romanian Society for Lifelong Learning (RO).
- Technological/Didactic Team Meeting, Rome, 22 June 2009, hosted by FOR.COM.
- Technological/Didactic Team Meeting, Rome, 23 September 2009, hosted by FOR.COM.

Project Interim Virtual Meetings:

- Training Needs and Didactic Team Virtual Meeting, 14 January 2009.
- Technological/Didactic Team Virtual Meeting 26 August 2009.
- Technological/Didactic Team Virtual Meetings 5 October 2009.
- “Instructions on how to complete the Progress report (financial and descriptive part)” Virtual Meeting , 26 October 2009.

All the meetings documents are available in the project website private area.

Need analysis. The European context of home healthcare assistance

- *Training Needs Report*: contains the main results of the training needs analysis of home healthcare professionals at European level. In particular it describes needs analysis objectives, methodology (tools utilized, target groups identified, best practices and case studies identified and analysed) and results achieved in the 7 countries involved (Italy, Denmark, Romania, Slovenia, United Kingdom, Switzerland and Croatia). In addition, the partnership decided to interview 2 healthcare professionals in each country, to collect more in-depth information on project target group characteristics, healthcare context main shortcomings and prime

characteristics of the training offer and needs of the healthcare professionals in target countries. The report is available in the project website public area.

- *COACH BOT curriculum*: the description of the course topics and contents. The curriculum represents the starting point and the basilar tool for the further definition of the specific e-course syllabus. The document is available in the COACH BOT website public area.

Design of COACH BOT methodology

- *E-course Syllabus*: one syllabus for each module has been prepared. The syllabi are divided into topics and include the e-course objectives, description of contents, didactic materials foreseen and expected support services for the course delivery phase (i.e. chat, video chat, videoconferencing, forum, online tutoring Session). The document is available in the project website private area.
- *Instructional Design Handbook*: describes the COACH BOT methodology and has been designed based on Pedagogical Agents technology. Pedagogical Agents are autonomous software systems, realized with AI-Artificial Intelligence, methods that can operate in the training environment as tutors or facilitators who adaptively assist users in performing training tasks. The COACH BOT virtual assistant acts as different roles within the e-learning platform: tutor, teacher, technical assistant, and mentor. The innovative methodology also includes the designing of a “personalized” learning path presented and supported by the virtual assistant, for each student according to his/her own profession, experiences and work needs. The document is available in the project website public area.

COACH BOT technological design

- *COACH BOT platform architecture report*: presents the features, requirements and the different sections of the e-learning platform which will host the course.
- *Virtual Coach technology report*: describes the features of the COACH BOT conversational agent and details the technical requirements ensuring the effectiveness of the tool.
- *COACH-BOT technological report*: includes the Technological Architecture of the entire tool; the platform hosting the course and Virtual Coach. It explains how to integrate the conversational agent technology into the e-course platform structure providing the technical instructions to effectively merge the two technologies.

The three reports, developed by the technical team, are available in the project website private area.

Production of the COACH BOT training path

- *Guidelines to develop Learning Objects*: COACH BOT trainers have been provided with specific guidelines for the realization of suitable Learning Objects (e.g. audio lessons, start-up/final quizzes, lecture notes, slides and case studies). The purpose of the document is to guarantee the production and realization of homogeneous contents, in order to facilitate participants’ course attendance. In order to ensure that the criteria defined in the guidelines are respected, trainers will complete a check grid for each learning object realized. The check grid will guide trainers to self-evaluate the specific features of their learning objects, especially regarding the format of their products. The documents are available in the COACH BOT website private area.
- *The project “Virtual Assistant” (Virtual Coach)*: the graphic interface of the “Virtual Assistant” was designed by the Danish partner (Health Care College of Aarhus). She is a woman and her name is “Clara”, see below.



Quality and evaluation process

- *Quality and Evaluation Plan*: was developed by the Quality and Evaluation Team to illustrate the quality evaluation process and tools. In regards to the evaluation of project outputs, all partners and the external evaluator completed the evaluation grid specifically created to evaluate each achieved outcome. The documents are available in the project website private area. Concerning the external evaluation, all partners filled out the questionnaires at the project kick off meeting in Rome and the project interim plenary meeting in Bucharest (the two evaluation reports are available in the private area of project website). All partners and the external evaluator complete an external evaluation grid every four months. Three external evaluations for March, June and October 2009 have been completed so far and are available in the private area of project website.

Dissemination and exploitation activities

- *Dissemination Plan*: contains the executive planning, the definition of the different dissemination strategies (i.e. Paper, Internet and Event) and the different tools to be delivered in the framework of each strategy, according to specific target group. The document is available in the project website public area.
- *Database of contacts*: contains 888 contacts of the target groups and stakeholders; local and national health authorities, home healthcare professionals, vocational training agencies, universities of applied sciences, secondary schools for the health sector and other actors interested to the project. The database is regularly updated throughout the project. The database is available in the project website private area.
- *1st National Exploitation Seminar*. FOR.COM organized the seminar on September 30th, 2009 in Rome (IT). The national seminar served not only as a promotional event, sharing the project aims with stakeholders, but also created an opportunity to meet directly with professionals from home healthcare services, in order to involve them in setting-up the first general framework of the pilot training course. A total of 28 people interested in participating in the COACH BOT training course attended the national seminar and provided information on their training needs and expectations related to both course contents and methodology. The target group was actively involved in an assessment survey and the organization of two focus groups. A total of 23 people answered the training needs and expectations questionnaire that consequently represent the potential participants in the e-course (scheduled for February 2009). The national seminar was promoted on the COACH BOT project website and featured in the national daily newspaper (Metro issue September 22nd, 2009). FOR.COM. phoned contacts and sent over 200 emails in order to promote the project among stakeholders and health professionals who operate throughout the country. The report of the event is available in the project website public area.
- *COACH BOT website*: features all the results of project activities. In order to ensure a user friendly organization of materials and information, the website is structured in two main parts: Public and Private Area. The Public Area provides access to all the project information and the main tangible outputs within different sections: Project (objectives, target group, methodology and technology), Course (description, course

online), Products and Results, Partners, News, Contacts, Poll for Home Healthcare Professionals. The Private Area id addresses to the partnership and collects and shares tools and contents related to the project management. The website www.coachbot.eu is regularly updated throughout the project.

- *COACH BOT multilingual brochures and posters*: these materials have been published in different languages illustrating the project's objectives and activities. They also target potential users in order to promote the e-course, and are distributed at all meetings and conferences to present the project. Brochure and posters are available on the project website public area.
- *COACH BOT e-Newsletters*: two e-Newsletter have been written in English and delivered among beneficiaries and stakeholders, using the COACH BOT database. The newsletter is part of the informative material concerning the project state of the art and the current achieved results. Each newsletter is available on the project website public area.
- A Number of 15 papers/articles have been drafted by the Partnership to promote the project at national and international level.
- A Number of 7 papers/articles have been presented at the following key thematic *national and international conferences*:
 - National conference focused on the e-learning for the public administration and the healthcare sector "L'integrazione dei sistemi di e-learning nella gestione della formazione/conoscenza nelle organizzazioni: tecnologia, condivisione e processi. Il modello della Emilia Romagna e del portale dell'e-learning per le aziende sanitarie Salus.Net", 10 March 2009 Bologna, Italy.
 - ICIE'09, the 4th International Conference on Interdisciplinary in Education, 21-22 May 2009, Vilnius, Lithuania.
 - EDEN 2009 Annual Conference, 10/13 June 2009, Gdansk, Poland.
 - 5th International Scientific Conference eLSE - eLearning and Software for Education "eLearning 2.0 and Innovative Practices with eLearning", April 09-10, 2009 Bucharest, Romania.
 - The 10-th EDITION of the traditional European Conference E-COMM-LINE 2009, September 28-29, 2009, Bucharest, Romania.
 - Annual Convention of the Association for Educational Communications and Technologies - AECT, in Louisville, Kentucky, in 28-31 October 2009.
 - International Conference ILearning Forum 2009, 19-20 January 2009, Paris (France).
- The project is published on the ADAM project and product portal for Leonardo da Vinci program (Advanced Data Archive and Management System), featuring the project's results and products (see <http://www.adam-europe.eu/adam>).

4. Partnerships

The project multi-actor partnership consists of 7 organizations, representing 6 European countries: Italy, Denmark, Romania, Slovenia, United Kingdom and Switzerland (self-financed). The consortium was designed to reflect different perspectives and expertise. The rationale behind their role in project, evolved from the identification of partners who have extensive experience in collaboration within their own specific sectors throughout Europe. Each partner has clearly divided responsibilities within different work packages, according to the key competences they possess.

The added value of the transnational dimension of the partnership is considered as follows:

- A better understanding of the training needs of Health Sector professionals at European level by analysing the situation within 7 different countries (Italy, Denmark, Romania, Slovenia, United Kingdom, Switzerland and Croatia) through the Training Need Analysis. Thanks to the Swiss partner (SEED Association), Croatia has been involved in the Need Analysis on the European context of home healthcare. The Need Analysis, resulting from a multinational perspective based on territorial criteria allowed partnership to compare the scenarios of two non EU countries within the general EU context, and moreover to outline also the situation of home healthcare professionals in Eastern Europe. After identifying the target group characteristics in each country analysed, the Need Analysis includes the description of in-service training possibilities for home healthcare professionals and their specific training needs in relation to the following main topics: medical/psychological issues, national/European health laws and social/ethical aspects of medical home care assistance.
- Develop an e-learning training course based on a transnational exchange of methodological approaches and experiences of different partners involved in the project and the ability to reach a significant number of target groups, due to the high numbers of partners and countries involved.
- Compare existing e-learning best practices relating to a special focus on tutorial systems by analysing the situation in 6 partner countries.
- Effective dissemination and exploitation strategies to present the COACH BOT project results targeting a wide audience at European level. The partnership will involve the target group throughout the project in order to promote their pro-active participation, and establish cooperation relationships with the main stakeholders whose activities are complementary to the COACH BOT project.

FOR.COM. (IT) is an Interuniversity Consortium that develops and delivers open distance learning courses applying innovative solutions and interactive tools. Due to extensive experience in EU project managing and in testing new e-learning models, FOR.COM is responsible of the overall management of the project and the development of the e-course platforms. **Aarhus Social and Health Care College (DK)** is a public healthcare institution that also produces web based teaching programmes. They will coordinate the Need Analysis and the development of the COACH BOT methodology. **Gruppo Pragma (IT)** is a multimedia consulting firm specialized in corporate publishing. They are mainly in charge of the design and production of the “Virtual Coach” conversational agent technology, thanks to their key technological expertise. **SREP (RO)** is an NGO that develops teaching/learning methods in order to enhance the quality of learning processes and evaluation criteria. Based on their expertise in EU project evaluation and quality assurance, they are responsible for project quality and evaluation activities. **Secondary School of Nursing Ljubljana (SI)** is a federally recognised nursing school. It is leader of the experimentation phase of the project

and coordinates the delivering of both the sessions of the e-course (experimental and control group) that will involve all partners' countries. **Norton Radstock College (UK)** is a centre for vocational training, also specialized in care sector. Thanks to its experience in EU project development and diffusion and their relevant networks, they are responsible for coordinating the project exploitation activities. **Seed Association (CH)** is a non-profit enterprise operating in the field of education, communication, technologies and international cooperation and takes part to the project consortium as a silent partner (self-financed), participating in all the project phases.

5. Plans for the Future

The remaining key objectives to be completed by the end of the project include:

Management

- Organization of an additional transnational interim plenary meeting and the final meeting in Aarhus (DK).

Production of COACH BOT training path and virtual assistant

- Conclusion of the development of the COACH BOT e-platform and “Virtual Coach” by December 2009. The technical team will integrate the modular structure into the COACH BOT platform in order to make it visible with or without the Virtual Coach. We are in the process of involving about 3 representatives from the target group in each partner country to test the COACH BOT methodology prototype (e-platform plus virtual coach) before the delivery of the pilot e-course. The feedback collected from home healthcare professionals will be fundamental in improving and customizing the products on the based on the target groups’ needs.
- The partners in charge in the e-course production (Romanian Society for Lifelong Learning, Secondary School of Nursing Ljubljana, Norton Radstok College and Seed Association) will complete the development of Learning Objects by December 2009. The foreseen learning objects include: audio lessons, slides, lecture notes, start-up, final quizzes and case studies. Before the course delivery it will be arrange a cross evaluation of contents among partners. Each partner will evaluate the Learning Objects of the module developed by another partner according to an ad hoc designed check list.

Experimentation

- Development of the Experimental Plan, containing the experimental strategy and principles, guidelines for setting up the two training sessions (control group session and experimentation group session), indications to monitor the e-courses, as well as guidelines to carry out the selection phase, including the main features and requirements of both the control and experimental group participants.
- Experimentation of COACH BOT pilot e-course in all partners countries. Each partner country will select one experimental group (that will include at least 10/15 learners) and one control group (that will include a group of at least 7/10 learners).

Quality and evaluation process

- External evaluation and evaluation of project outputs activities will be regularly carried out during the whole project duration, culminating in the External Evaluation Report at the end of the project.
- Evaluation of COACH BOT methodology. In particular, two questionnaires will be designed and submitted to both control and experimentation learners groups (an expectations questionnaire - at the beginning of the course - and a customer satisfaction questionnaire - after the e-course).
- Follow up evaluation of the pilot application for further development and transferability. 3 focus groups composed of learners from each country will be formed (the 1st among experimental group users, the 2nd among control group users and the 3rd in a mixed group with both users of the experimental and control group).

Dissemination and exploitation activities

- Organization of 2 National Exploitation Seminars in each partner country. It will be arranged the first national Exploitation seminar in the partners’ country (all except

Italy, where it has been arranged the 30th of September 2009). In detail, the event will be arranged in Aarhus (Denmark) in January 2010, in Bucharest (Romania) in January 2010, in Ljubljana (Slovenia) in November 2009, in Radstock (UK) in January 2010 and in Lugano (CH) in December 2009. A second national exploitation event will be arranged in all partners countries after the experimentation phase (May – July 2010).

- Continuous updating of website contents and promotion during and after the project duration through the partners' networks.
- Production of future periodical project e-newsletters that will be delivered among the target group and stakeholders to describe the project state of the art and the current achieved results. The e-newsletters will be sent through e-mail and will be available on the project website.
- Promotion through the distribution of informative material (project brochures, posters and e-newsletters) and website advertising among healthcare professionals and stakeholders.
- Set up of a testing session of a Virtual Coach Trial on the project website to promote the pilot application testing and to gather users' feedback through an online questionnaire.
- Production of a COACH BOT e-learning platform demo that will show the platform structure and main functions and will provide instructions on how to navigate inside the platform. The demo targets stakeholders such as local and national health authorities, agencies providing e-learning courses to the health sector, e-learning technological stakeholders, universities of applied sciences and associations providing socio-healthcare services.
- Drafting of papers and articles to be published in national and international magazines.
- Participation in key thematic (ICT and Healthcare) national and international conferences to promote the COACH BOT project. Identification of potential future users and stakeholders and promotion of the project results.
- Organization of a plenary final conference in Aarhus (DK) aiming at disseminating and exploiting the final results and products. Decision makers will be invited in order to promote their active involvement in the project sustainability after the project's end.
- Definition of an Exploitation Agreement among the partners concerning the commercialisation of the COACH BOT Virtual Assistant and Methodology and further improvements after the end of the project.

6. Contribution to EU policies

The COACH BOT project addresses the issue of e-learning constraints in terms of the lack of online assistance available to solve learners' needs and provide them with constant feedback and encouragement. Learners in web-based settings often tend to feel isolated which may lead to a loss of motivation. Feeling that someone, like a virtual tutor, is present to provide support may reduce feelings of isolation by giving learners a sense of "online presence". Often enough, researches in this field do not offer a theoretical basis for this "presence" or examine the preconditions for and effects of this "presence" in learning benefits and factors such as acceptance or satisfaction. The COACH BOT project also addresses adults learners' need to find a training solution that will fit into their busy schedule amid their work and personal life.

The selection of the target group of home healthcare professionals derives from **EU and national (IT, DK, RO, SI, UK) policies which underline the role of social health care** (EU Health Programme 2008/13), and highlights the characteristic of this sector and healthcare professionals, who require a broad skill base and consequently more training opportunities. There are many indicators that show the lack of training needs felt as an acute problem in the health care system: skills shortages at all levels, lack of IT infrastructure, recruitment increase, reorganisation, duplication of effort. An IT based learning methodology like COACH BOT can help to solve these problems incorporating a new multidisciplinary approach based on an e-learning system able to interface in a human-like way with students and to customize the learning process to learners' specific needs.

Lisbon Education and Training Progress Indicators

The COACH BOT project addresses the Lisbon Education and Training Indicator LIS-F22, "*Making Learning more Attractive*". The main result of the project will be the development of an e-Learning platform hosting a Virtual Coach able to offer active interaction with participants. Since the interaction with the Virtual Coach will be carried out in a human-like way, the system will be easily accessible both for elderly and for low ICT-literate people. The platform will promote collaborative learning environment and a more attractive interaction able to stimulate and to preserve a high level of motivation. The e-course, accessible at any time without limits of space, is particularly attractive for healthcare professionals who do a shift work and do not have extra time to enrol in training courses with extensive classroom time, providing a suitable solution that allows trainees to successfully manage a training course amid their personal and professional life. Furthermore, home healthcare professionals come from different educational and professional backgrounds and thus have different experience and training needs. The modular e-course permits trainees to customize their learning experience by choosing course contents that are most relevant for their job depending on their profile, thus addressing an array of diverse professions within the healthcare sector. The COACH BOT methodology offers a flexible learning approach allowing participants to customize their own personalized training paths based on their specific time, availability and training needs.

Lisbon Key Competences

The project also addresses the Lisbon Key Competence KC4, "*Digital Competence*" by experimenting a pilot training course based on the COACH BOT methodology (virtual coach) and an e-learning platform that is used in a synergic way: the platform will be used according to the project's didactic objective to maximize ICT benefits and e-course users will develop digital competences as an indirect benefit of the course.

LLP Horizontal policies

Moreover, the LLP Horizontal Policies B, "Making provision for learners with special needs, and in particular by helping to promote their integration into mainstream education and

training” is also addressed by the project. The use of a user friendly e-learning platform with the help of COACH BOT Virtual Assistant facilitates the access for learners with special needs. The e-learning platform can help people with different kinds of mobility problems by breaking physical environment barriers in order to eradicate discrimination and social exclusion.

Complementarily with other policies

COACH BOT addresses the policy KA3, *“To support the development of innovative ICT-based content, services, pedagogies and practice for lifelong learning”*.

The project integrates a duly designed modular e-learning path according to adult professionals’ training needs with a human-computer interface (chatbot) to enhance the e-learning effectiveness. The project’s innovation consists of the development of a collaborative e-learning environment featuring a “chat-bot” or “Virtual Coach” who interacts with users through a human-like interface. The “Virtual Coach” acts as a teacher, coach and tutor, who supports learners “individually” during the modular e-course by providing in-depth information, assessment, case studies, technical and methodological support. The COACH BOT e-course is based on a personalised approach allowing home healthcare professionals, with the help of the “Virtual Coach”, to customize their own training path and benefit from a suitable training path that is relevant to their profession and based on their own specific needs, knowledge and skill requirements. The COACH BOT methodology not only provides assistance, but also offers trainees’ autonomy, the ability to create a suitable learning path, find information quickly, apply what is learned to their work and the possibility to learn through different means (audio, video, text, etc.).

