

PART D. Project characteristics

D.1 Why does the consortium wish to undertake this project?

Rationale of and background to the project

Please outline the motivation behind your project, clearly identifying the specific needs or problems/challenges which it intends to solve. Explain why these needs/problems were selected over others, and how the project proposal fits within the development strategies of the partners involved. Please include references to any declared regional, national, EU or international political priority in this area.

Also, please describe briefly how your project proposal was prepared (e.g., capitalising on previous experiences, based on achieved outcomes in former projects, following previous cooperation amongst the consortium members, etc.) (limit 6000 characters).

ANGELS Consortium is a group of organizations, public and private that, with different perspective and specificity, work in education and adult learning projects, share the aim of bringing innovation and improving effectiveness in lifelong learning process.

Augmented Reality Network GEnErating Learning on Safety idea starts from two different needs and opportunity detected by partners:

- the first is probably the "never ending" need to innovate the learning methods to develop training path in line with new skills and new perception habits, now massively popular in everyday life. By this we mean the use of technological devices to carry out normal day to day operations, for instance from shopping to travel bookings, from listening music to reading books. For these reason we choose Augmented Reality (AR) point of view. AR is a term for a live direct or an indirect view of a physical, real-world environment whose elements are *augmented* by computer generated sensory input, view of reality is modified by a computer. As a result, "the technology functions by enhancing one's current perception of reality. Several studies have shown that immersion in a digital environment can enhance education in at least three ways: by allowing multiple perspectives, situated learning, and transfer." (Chris Dede, Immersive Interfaces for Engagement and Learning; Science 2 January 2009: Vol. 323 no. 5910 pp. 66-69)

Starting form the key goal of the Life Long Learning Program to "address the modernization and adaptation of education training systems in the participating countries" ANGELS propose a Technology enhanced and immersive learning system which aim is to experiment a new tool but also a new learning paradigm. Indeed we know, that changing technology or innovate tools means above all changing learning framework. This is the one of the main issue of ANGELS: developing an innovative tool and methodology and also a new learning approach. ANGELS system allow participants to explore environments and get information, training and retraining experiences. At least ANGELS system will allow participants to add more input and information based on personal previous experience in the environment.

"See risks through the eyes of those who live on the front line"

- The second need is one of the most strategic and urgent issue for modern society and is still a big challenge at an European level: Workplace Safety and Health.

"Making Europe a safer, healthier and more productive place to work. Every year in the European Union there are 5,720 fatal work-related accidents and millions of people are injured or have their health seriously harmed in the workplace." Workers and employers need to be made aware of the risks that they face and how to manage them. (source: EU-OSHA). This is the claim placed in the home page in website of the most important European organizations for occupational safety, European Agency for Safety and Health at Work.

An effective training program can reduce the number of injuries and deaths, property damage, legal liability, illnesses, workers' compensation claims, and missed time from work.

Safety training sessions help establish a safety culture in which employees themselves help promote proper safety procedures while on the job. It is important that employees be properly trained and embrace the importance of workplace safety. A 1998 NIOSH study concluded that the role of training in developing and maintaining effective hazard control activities is a proven and successful method of intervention. (Source: EU-OSHA)

So, giving effectiveness and attractiveness to learning path in this field is crucial to promote culture of Safety at work, develop awareness, personal commitment and responsibility. Is a big challenge for ANGELS Consortium because traditionally, such training is very focused on regulatory issues such rules and law articles and often is perceived boring and low appealing. For testing and designing ANGELS system we choose health care and clinical organizations.

Thanks to Augmented Reality and a new methodology that reverse the learning paradigm, the environment becomes proactive and interactive, coming to an integration between site and human behaviour.

The expected impact are mainly four: provide innovation to learning practice thanks to an original and interactive methodology, increase workers awareness about health and safety issue, ensure the effective valorisation and exploitation of the project results and products, build an original methodology framework usable on other content such vocational skills relevant to labour market.

Every partner of the Consortium was involved in research projects about learning and technology. The French SME MF, the Italian one ENT and the Spanish University UJI are involved in Leonardo framework projects about edu-games (SINAPSI, Learn2Lead) and new paradigm for technology learning (T3). PTV, the Coordinator is an University Hospital, and is one of the first Italian provider of Safety and Health at Work training credits. The PTV Department of Prevention and Protection has a long experience in developing Safety learning path for health care context. IT is a leading company specialized in the development of Augmented Reality solutions and software. IT is the technological partners in ANGELS Consortium. NCONZO, a Czech centre for nurse education and for all health professions, core activity is provide lifelong learning training for workers in health care and clinical settings.

If your proposal is based on the results of one or more previous projects / networks, please provide precise references to this / these project(s) / network(s) in the table below.

Please add tables as necessary.

Reference number			
Project / network dates <i>(year started and completed)</i>		Programme or initiative	
Title of the project / network			
Coordinating organisation			
Website	http://		
Password / login if necessary for website			
<i>Please summarise the project / network outcomes and describe (a) how the new proposal seeks to build on them and, (b) how ownership / copyright issues are to be dealt with (limit 1000 characters).</i>			

Investigation of the field (state of the art) and innovative character

Please explain how the field of operation has been explored and indicate what the project is offering that is new and what are the main innovating elements (limit 3000 characters).

Since at least 10 years consideration concerning the safety at work produced on one side an intense legislation activity, at European level, and on the other side several communication activities and strategy for improving awareness, standards and procedures, etc.. Common aim of these measures is the promotion and dissemination of a culture of health and safety in line with the needs of the working world. An important place is unanimously assigned to training but is mainly carried out using methods and approaches who focus on the transfer of information rather than on the involvement and shared principles and values underlying the safety within workplace. Is a big challenge for ANGELS Consortium because traditionally, such training is very focused on regulatory issues such rules and law articles and often is perceived boring and low appealing. The possibility, through Augmented Reality and immersive learning of reversing the educational perspective on such an important issue also appears to represent a possible answer to the need to develop the effectiveness these interventions about safety issue

ANGELS introduces 4 key innovations:

The first concerns technology. ANGELS will focus on innovative practices and technologies ("Augmented Reality and immersive technique), not usually considered in "practical" treatments of learning. During the two experimental cycles (pilot study and large scale trial) ANGELS teaching staff will test the learning model developed for this project, measuring participants' satisfaction, the level of retention of the content and usability.

The second derives from the first and from a realistic assessment of 21st century teaching environments. The ANGELS program will be designed to accommodate constraints deriving from participants' heavy workloads making education accessible directly in the work environment. In particular in health care context, not take time away from the staff in their work but at the same time provide them with the right information and training about safety is a crucial challenge.

The third innovation will be the field of application. In our project we addressing the issues of safety at work in health care settings. In this context is so fundamental the adoption of instruments of training/updating on the job deeply integrated within work settings that, thanks to the development of didactical technologies, can provide users with localized information and training aids about right safety and prevention procedures (environments, employment of technical devices, etc).

Finally the end-product of the ANGELS project will itself be innovative. Rather than producing "guidelines" for academics and decision-makers, ANGELS will produce a Starter Kit ("Augmented Reality GEneration Learning on Safety"), that appeal directly to organizations in need of Safety on Work training, university teaching staff, and professional trainers. The ANGELS Starter Kit will include multimedia content and documents (also to be released on the web) and a free DEMO software allowing manager of safety in the organizations and individual workers to try and deeply understand the ANGELS System. The multimedia content will adopt "a narrative style", in which trainer tell about the practices they have developed and the way they have tested them and participant testify their experience.