



**PE-ABLE  
TRAINING AND PERSONAL ABILITIES TO GUIDE PARTICIPATORY  
ERGONOMICS PROGRAMMES**

Progress/Final Report

Public Part

## Project information

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## **Executive Summary**

This document is intended to present the objectives, work plan and partial results of the Leonardo PE-ABLE project.

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## **1. Project Objectives**

The main objective of the project is the development of the contents and the application of a formative tool to assure to European Occupational Safety professionals a worthy education and training along their professional career regarding to ergonomics, Participatory Ergonomics (PE) and personal abilities and skills, as well as develop the necessary actions to enhance it.

The e-learning tool planning resulting from the project will be available in two formats (on-line and CD-ROM) and in 4 European languages (English, Spanish, Dutch and Portuguese).

As a result of the innovative contents included in the tool, OHS professionals will learn the more advanced techniques and methodologies to the application of personal skills to the development of PE programmes.

## 2. Project Approach

The project final result will be a course with the following contents:

- Ergonomics: Macroergonomics analysis of structure, macroergonomics analysis and design, ergonomics, health and productivity, sociotechnical systems.
- Participatory ergonomics: Bases of PE, methodologies and techniques of PE, international experience.
- Personal abilities: Problem-solving methods, promoting solution methods, change management, leadership and implication, operative planning techniques, communication.

These contents will be on-line updated in the future integrating the knowledge resulting from the R&D activities of the project partners.

The target groups (potential users) for PE-ABLE course are:

- Professionals making part of OHS department in companies of all sectors.
- Self-employed OHS professionals providing services to industries.
- Professionals making part of OHS teams of companies/consultants providing external consultancy services of health and safety to industries.
- Unemployed persons (with former experience in the sector) who are interested or want to orient their career towards the Health and Safety discipline.

The project is divided into 9 work packages; each one has a clearly defined objective. WP1, WP2, WP3, WP4 and WP5 are the core of the project; they are linked sequentially and correspond to the phases of needs characterization, development, implementation and validation of the course. WP6 and WP8 are dedicated to dissemination and exploitation tasks, and WP8 and WP9 to quality and project management.

### 3. Project Outcomes & Results

The project is now in the middle point. We have totally developed WP1 and WP2 and we are now finishing WP3:

#### **WP1 - Research and diagnosis of training needs.**

This workpackage had the objective of knowing with precision the training needs of the target-group, on ergonomics, PE and the skills and abilities which are necessities to promote and conduct a PE.

Based on the research developed in the participating countries, the results obtained provided an overall on the state-of-art concerning PE, especially regarding the training needs of the professionals that will be involved in the development and evaluation of PE programs in the companies.

The research and subsequent analysis addressed the initial research questions:

- What is the current practice on PE in research, VET and companies in the countries concerned?
- Which determinants of success or failure of PE projects have been mentioned in international literature, both professional and scientific?
- What is the impact of the above-collected evidence on the structure and content of PE (VET) programs in countries with a low focus on PE?

Some of the conclusions of this WP are the following:

- PE is not formally included in most of the current OHS official training curricula as, European-wide, there are very few references to education and training programs/courses entirely devoted to teaching PE.
- Contents on PA are partially included in most of the official OHS training programs and topics more frequently addressed included: training, information techniques and communication and negotiation. The OHS training programs approach to PA topics mainly focuses on the acquisition of competences on management and soft skills and is not usually specifically-related to ergonomics.
- Overall, the current practice of OHS professionals tasks within the companies do not include explicit PE approaches although there are some common tasks that could be related with PE.
- Most of the international literature consulted for this report, focus on MSD, workload, injuries, absenteeism, and blisters. If limitations are mentioned, they mainly refer to inadequate evaluations. This points out to rather classical worker-management conflicts, which is still present in sectors of industry, or to a general fear to change or to a dominance of production pressure.
- The majority of the ergonomic interventions in companies are focused on the individual, on physical adaptations, or work schemes. Contextual factors as hazards and organisational interventions only have a minor attention in the participatory ergonomics domain, as does the role and limitations of designers.

- The success factors associated with the PE process are related with “change” and the willingness of both workers and companies to propose, develop and achieve solutions that can, indeed, contribute in an effective manner for the improvement of the working conditions. Success factors include: initial diagnosis, direct participation of the workers, strong management commitment, development step-by-step, comprehensive approach, responsible working group, evaluation of the effects and cost-benefits analysis.
- PE doesn't make the biggest emphasis at the exhaustive assessment and identification of the problems, but rather in finding shared solutions (proposal, discussion, agreement ...).
- Furthermore, PE is compatible with other more "conventional" approaches and hence the development of specific PE programs can help to corroborate or prioritize the quantitative assessments and provide specific solutions. PE can also be part of a larger process that includes quantitative and qualitative evaluations.
- Despite the importance of workers involvement in the company programs being widely recognised as one of the key aspects of the practice of OHS professionals, the current training curriculum on PE fails to acknowledge the importance and impact of these skills and personal capacities of OHS professionals when a PE programme is carried out in a company.
- OHS professionals and companies will need further knowledge and competences on specific abilities and personal skills in order to develop, lead and implement successful training programs that provide companies with a new vision and strategies in order to implement ergonomics and PE as the solution for MSDs problems in the workplace.

## **WP2 - Definition of an innovative Vocational Education Training (VET) curriculum**

The WP2 have defined the VET curriculum of the PE-ABLE course that will meet the formative needs of the European OHS professionals to head PE programmes. Specifically, this includes the definition of the following points:

- the learning objectives meeting formative needs (knowledge, skills and competencies) detected in WP1 and gathered in Deliverable 1;
- the suitable course structure (modules, sessions and scheduling) to achieve the learning objectives, including both theoretical and practical activities/materials;
- the evaluation methods to be used to demonstrate both the achievement of the learning objectives and the indicators to assess the quality/effectiveness of the course itself;
- the recognition framework that will be established to the vocational training proposed, and the exploration of the integration of the PE-ABLE course (or any of it modules) into formal training.

## **WP3 - Development of the formative contents**

The objective of this WP is to develop the contents of the course to satisfy the formative needs of the European OHS professionals in the PE field.

The contents, that are currently under development, are those indicated by the VET curriculum of the course, generated in the previous work package (D2, WP2).

The contents will be the knowledge to be uploaded in next work package (WP4) in an e-learning course benefiting of the latest advances in ICT technologies.

## 4. Partnerships

### **Instituto de Biomecánica de Valencia**

IBV is a research centre dedicated to scientific research, technological development, technical advice and training activities related to biomechanics. IBV has access to a multidisciplinary team of 250 professionals such as engineers, doctors, programmers, physiotherapists, biologists, social workers, designers, educationalists, etc. IBV also has a broad experience in coordination and participation in European Research Projects.

The activities in the area of Occupational Health and Safety are oriented to improve the well-being of workers at workplace, the capacities of Occupational Health and Safety professionals and the competitiveness of companies. This area has several expert researches related to ergonomics, in charge of doing consultation services of risk assessment and ergonomic workplace design. They also have experience in Participatory Ergonomics (PE), because PE programmes have been carried out by them at various private companies.

### **Instituto Sindical de Trabajo, Ambiente y Salud**

ISTAS (Union Institute of Work, Environment and Health) is a self-managed trade union's technical foundation supported by the Spanish Trade Union Confederation CCOO to promote the improvement of working conditions, occupational health and safety and environmental protection in Spain.

ISTAS is part of a collective effort to achieve a society of free and equal citizens based upon solidarity, fair social progress and environmentally sustainable development.

### **Delft University of Technology**

Delft University of Technology is the largest Dutch public technical university, located in Delft, Netherlands. TU Delft collaborates with a large number of other educational and research institutes within the Netherlands and abroad and has a reputation for high-quality teaching and research.

The principal group included in TUDelft which will work in this project is the "Safety Science Group". This Group participates in the Faculty programme "Reflection on Technology" and is setting up the newly formed programme on "Design, Technology Development and Risk". The group aims, in its research, to carry out studies in different technologies, industries and types of system, in order to learn the extent to which principles, methods and approaches can be generalised across system boundaries.

### **Institute of Ergonomics and Human Factors**

The Institute of Ergonomics & Human Factors is a professional organisation in the UK for ergonomists and human factors practitioners. It is dedicated to providing information and services to the public, and support to its members.

Their principal role is to foster the evolution of ergonomics and in so doing to uphold standards of competence within the discipline. To do this, IEHF undertakes major activities including:

- Ongoing review and development of the discipline
- Approving appropriate education and training courses
- Running professional development schemes (IPD and CPD) to promote professional competence
- Establishing and implementing the Code of Professional Conduct
- Assessing and accrediting practitioners to ensure scientific quality, rigour and competence for admission to the Professional Register
- Setting up and maintaining the Consultancy Register to assess and accredit companies providing ergonomics expertise and services
- Assisting those needing ergonomics services to identify an appropriate company on the Consultancy Register
- Organising scientific conferences, seminars, lectures and other events on ergonomics/human factors
- Providing leadership and editorial inputs for learned journals
- Liaising and collaborating with cognate organisations in matters of mutual interest
- Publishing monthly and other occasional publications to disseminate ergonomics activities and events
- Maintaining a website to serve both the public and the membership.

### **Global Human Development**

Global Human Development is a Portuguese company which provides training consulting and technical cooperation services with the aim of building and improving the professional capabilities and performance of people and companies.

GHD works towards the promotion of management and entrepreneurial competences in young people, adult learners and within the organizations as a tool for the development and the improvement of their competitiveness. In the last couple of years GHD has also been intensively involved, mainly at the national and European level, in projects related to women (including coaching, mentoring and ICT use), entrepreneurial spirit and gender equality also aiming at the improvement of the employment capabilities of the learners. GHD has managed to establish an effective network of the associates, at the national and international level, supporting the exchange of competences and know-how.

## 5. Plans for the Future

The project is now in the middle point. The tasks that we are developing now are the following:

- WP3 - Development of the formative contents: Develop the contents of the course.
- WP4 Development of the e-learning course. The objective is to adapt all the formative contents defined in WP3 into an e-learning platform. The e-learning course resulting will be a prototype of the full product. The training materials will be available in DVD format too.
- WP5 Validation: Pilot-tests. Once adapted, we will conduct a pilot course to test and analyze the performance achieved with the new e-learning course and propose improvements to maximize its adequacy to satisfy the needs detected in the OHS professionals in the PE field. The course will be conducted in 4 national: Spain (Spanish), UK (English), The Netherlands (Dutch) and Portugal (Portuguese).
- WP6 Dissemination: The objective is to establish a communication and dissemination plan in order to involve the end users of the project, continuous dialogue with stakeholders, publicizing the project and to ensure the applicability of the project's outputs. The main targets will be: OHS professionals of all sectors, training organizations actives and Universities in managerial sciences.
- WP7 Exploitation of results. The objective is to build-up an Exploitation plan to guide the activities to be done after the end of the EU funded project in order to assure the sustainability of the results, their wider and broad adoption and their continuous update. The exploitation plan and agreement will define the arrangements on property and exploitation rights, marketing and commercialization plans, access rights, licenses, prices, etc.

## **6. Contribution to EU policies**

PE-ABLE project vision is a strong, competitive and sustainable European OHS professionals underpinned by a highly skilled and knowledge-based professional workers.

PE-ABLE is fully utilised in an intensive use of the ICT environment, from their conception to their application. PE-ABLE will develop new ICT based contents of personal abilities, capacities as leadership, training rules, reward and communication methods in realizing change in human behaviour, interpersonal influencing skills, among others focused on European OHS professionals in order to provide this group with the adequate training, education and capabilities to conduct PE programmes at companies, reducing the problem of the Work-related musculoskeletal disorders (MSDs) along the European workforce. The consortium has estimated that an effective use of ICT in a training course will contribute to a quality education and it will fit adequately to the needs of the knowledge society in a lifelong learning context therefore, the project has among its aims, the objective to adapt all the formative contents defined into an e-learning platform, according to VET curriculum and the contents/materials defined.

PE-ABLE promotes and awareness the importance of cultural and specially, linguistic diversity within Europe. All training contents, e-learning platform, pilot course and the course in general will be developed in English idiom, but later, they will be translated to each one idiom existing in the PE-ABLE consortium, i.e. all the material developed in this project will be available in English, Spanish, Dutch and Portuguese. It is a priority point that our have took into account, because it let our project to achieve the maximum diversity and European dissemination.

