



VRoad (2018-2020) Erasmus+ Program

Project for the learning through virtual reality applied to roadwork training in

European construction industry

Project: Belonging to the European Union *Erasmus+ Program*, 2018 Call, of the Key Action 2 to the Cooperation for Innovation and the Exchange of Good Practices.

Project Identification: 2018-1-ES01-KA202-050294.

Duration: 24 months, since October 2018, until September 2020.

Budget: 214.484 €.

Coordinator of the project: *Fundación Laboral de la Construcción*(Spain).

Partners: *GA Consultores* (Spain), *Formedil Piemonte* (Italy), *Centro de Formação Profissional da Indústria da Construção Civil e Obras Públicas do Sul -Cenfic-* (Portugal), *BTP CFA INdre-et-Loire* (France).

Website: <http://microsites.fundacionlaboral.org/vroad?idioma=1>

The maintenance and exploitation of road infrastructures, specifically the Conservation and Operation of Roads (COR), is decisive to maintain its viability and extending their useful life. European transport infrastructure is a means to strengthen the social and territorial cohesion of the European Union (EU), with the potential to promote economic development and job creation directly and indirectly.

The availability of a skilled workforce on roadworks according to safety requirements faces the following specific needs:

- Hazard prevention in roadworks.
- Pedagogical innovation aimed at road maintenance needs.
- Acquisition of pedagogical skills.

Training system, based on Virtual Reality, with simulation of real scenarios

In this sense, the European project VRoad aims at tackling needs for work-based training and hazard prevention in roadwork training, through the development, testing and implementation of a training system based on Virtual Reality (VR), which is a computer-generated scenarios that simulate realistic experiences.

In this way, the partners of the partnership want to reach four key points:

- To define a theoretical and practical learning frame for the development of the proposed training system, in order to fulfil the pedagogical and Health and Safety goals, ensuring the adequacy and complementarity of the technological tool with the current training framework.
- To propose an innovative educational approach for the practical learning of roadworks maintenance through the development, testing and implementation of three activities/situations of roadworks through the VR.
- To ensure the exploitation and the complement to the Vocational and Educational Training (VET) trainers and students in the use of the developed training system.
- To design a roadmap which establishes the standards and necessary steps to recognize the content of the proposed training system, developed in terms of *EQF (European Qualification Framework)* and according to the European frame and

recommendations of *EQAVET (European Quality Assurance in Vocational Education and Training)*.

In support of these challenges, the project will have a double objective: to create National Advisory Groups (NAGs) in each country of the partnership, as well as Technical Advisory Groups (TAGs) and to implement the standard recognition process.

The working methodology will combine qualitative techniques (focus groups) and quantitative techniques (questionnaires and internet surveys) to get first-hand information regarding Health and Safety on roadworks and, in particular, in maintenance roadworks.

Challenges and benefits for industry

However, this European initiative addresses three clear challenges:

- Difficulty to carry out work-based learning in real situations in this type of activities in roadworks scope, and especially in traditional training carried out in classroom.
- Increasing demand of attractive and innovative pedagogical methodologies and tools which ease the learning-training processes in construction industry VET, especially with some collectives.
- Lack of training tools and resources including the experiential item to make easier the learning and increase the trainee's motivation towards training, through his/her participation in an immersive process.

The benefits of solving, at least in part, these challenges are:

- Improvement of the construction VET providers' activity to include an appealing training offer for the current and potential construction sector worker.
- Strengthening of the preventive culture of construction workers.
- Enhancement of workers' qualification on management and use of Information and Communication Technologies (ICT).
- And, in short, the improvement of the image of an increasingly prepared and competitive sector.



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