

## **WP4 – Development of teaching and training resources with the use of remote teaching methodology**

### **IO.11 - Development of resources for roadside environment safety management**

The task will be carried out under Work Package 4 (WP4. Development of teaching and training resources with the use of the developed techniques). In this task, based on IO.4 – IO.9, the methods of remote education will be applied in the following:

- lectures (roadside environment requirements, risk assessment and analysis, rules for identifying and classifying hazards and their source, testing of protective devices – site and numerical tests, rules for the design and location of protective devices, database exploration, etc.),
- fieldwork (collecting film and photographic documentation in specific locations, identification and assessment of hazards and their source),
- practical classes (selection of parameters of protective devices – levels of restraint, deformation parameters, collision intensity, type of material),
- design classes (of roadside environment), including the location of protective devices with appropriate parameters,

The training of future management personnel and enhancing the competences of those dealing with RIM in the field of the roadside environment is all the more important in light of accident statistics in many European countries – e.g. in Poland, approx. 20% of all road fatalities are recorded in accidents related to running off the road.

Roadside environment safety management also includes specialist knowledge of the design and use of road safety devices. Currently, in curricula and various training courses, this knowledge is insufficiently imparted to students and infrastructure management personnel. One of the causes of this may be due to the academic staff's incomplete knowledge of the field.

The planned outcome of the task will be the development of modern and innovative digital teaching and training content for remote education in the field of roadside safety management, with the support of RISM tools. As part of the syllabus of the civil and transportation engineering courses in partner universities, there will be the provision for 30 hours of lectures, 10 hours of fieldwork, 5 hours of practicals and 15 hours of design. The potential extension of the programme will be possible when syllabuses have been adapted.

#### **Target groups:**

1. Research and teaching staff from institutions involved in the project and ultimately other European institutions.
2. Students of civil and transportation engineering.
3. Road authority staff at a national, local and regional level.

**Innovative elements:**

1. Building a database with classified hazards and their source in the road environment.
2. The application of road infrastructure safety management tools, in training and teaching process in the field of roadside environment safety management, with the use of remote education methods.

**Expected impact:**

The developed resources can be applied in the teaching (for students) and training (for road infrastructure management) throughout Europe. An innovative approach to distance learning in the field of roadside environment, using support methods and tools, which will significantly increase the quality of teaching and training when it is necessary to employ remote education.

**Transferability potential:**

Tools to support the roadside environment safety training process, such as hazard databases and recommendations and applications, will be made available on an online platform for the use of research centres and road authorities across Europe.

**The division of work:**

The work will be divided among all consortium participants and will include:

- Adaptation of educational resources to the needs of the updated methodology of remote education (within the framework of IO.4 – IO.9)
- Building databases containing identified hazards and their source in the roadside environment
- Development of recommendations for activities improving safety
- Preparing publications summarising the completed works.

**The tasks leading to the production of the intellectual output:**

The leading institution (CUT) will be responsible for supervising the development of teaching and training resources. Other consortium participants (apart from AAU) will cooperate in the development of these resources, sharing their knowledge and experience. Within IO.11 the necessary scope and detailed division of work will be defined.

**Applied methodology:**

Within the framework of this task, databases will be built, with the possibility of their expansion and adaption to the needs of individual users. To support distance learning in roadside environment management, methods dedicated to academic staff, students and road infrastructure management personnel will be used (with the capacity for continuing development and increase of effectiveness).