# EVENT REPORT

**Lublin Training Meeting**

<table>
<thead>
<tr>
<th>Project title</th>
<th>Improving the Traffic Safety in the Western Balkan Countries Through Curriculum Innovation Development of Undergraduate And Master Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project acronym</td>
<td>TRAFSAF</td>
</tr>
<tr>
<td>Coordinator</td>
<td>University of Pristina in Kosovska Mitrovica</td>
</tr>
<tr>
<td>Project start date</td>
<td>November 15, 2018</td>
</tr>
<tr>
<td>Project duration</td>
<td>36 months</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reference no and title of work package</th>
<th>2.3. Training of teaching staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author(s)</td>
<td>Nebojsa Arsic, Aleksandra Petrovic, Iwona Rybicka</td>
</tr>
<tr>
<td>Event</td>
<td>Training for LLL courses. Training for best practices in traffic safety in Poland-Lublin University of Technology-Poland</td>
</tr>
<tr>
<td>Venue</td>
<td>Lublin University of Technology</td>
</tr>
<tr>
<td></td>
<td>Lublin, Nadbystrzycka 38D</td>
</tr>
<tr>
<td>Date</td>
<td>25th-27th June 2019</td>
</tr>
<tr>
<td>Organizer</td>
<td>Lublin University of Technology</td>
</tr>
</tbody>
</table>
EVENT DESCRIPTION
with special reference to goals and outcomes

Number of participants at the event
25th June (First day) - 36, 26th June (Second day) - 33, 27th June (Third day) - 33

Participants (organisations)
UPKM, UPM, OU, LUT, UM, TCASU, UNS, VTSNIS, ABS, UNSA, USB, AUB, UOM and AC

Event description:
Training meeting of the Erasmus + Capacity Building in the field of the Higher Education project “Improving the Traffic Safety in the Western Balkan Countries through Curriculum Innovation and Development of Undergraduate and Master Studies” (TRAFSAF). The Training was hosted by the Lublin University of Technology, Lublin, Nadbystrzycka 38D on 25th, 26th and 27th June 2019. The meeting was organized and realized by the LUT TRAFSAF team: Prof. dr Piotr Kacejko Rector of LUT, Prof. Paweł Droździel, Prof. dr Zbigniew Pater – Dean of the Mechanical Engineering Faculty, Prof. Sławomir Tarkowski, Ivona Rybicka, Julia Mishalska, Celina Handzel, Janusz Bohatkiewicz, Marcin Dębiński, Mariusz Dzieńkowski and Jakub Smolka.

The main goals of the meeting were:
- Training for teaching staff:
  - Training for LLL courses;
  - Training for best practices in traffic safety in Poland;
- Visiting laboratories and equipment for traffic safety education of the LUT (PTV Vissim - modeling of transport systems and PC – CRASH Reconstruction of road accidents)
  - Introduction TRAFSAF partners with LLL courses in EU for traffic safety; professionals;
  - Introduction partners with Definition of aims, specific competenies and learning outcomes of underg./master curriculum per HEI in WB;
  - Information about tendering procedures of WB HEI partners within WPA 2.4 Improvement of teaching environment and equipping of labs;
  - Visit of: Traffic control center on the Lublin city beltway and - Model of traffic deceleration system (Puławy – Kazimierz Dolny) in training purposes;
  - First QAC meeting

First day
Following the participants registration the meeting in Lublin was opened with welcome speeches of the Prof. dr Zbigniew Pater – Dean of the Mechanical Engineering Faculty Prof. dr Nebojsa Arsic, Coordinator of the TRAFSAF Project.

After welcome speeches Celina Handzel IRO stressed the main information about LUT International cooperation and current ERASMUS+ projects and all basic information about that.

Then prof. Paweł Droździel, vice rector of the LUT presented Traffic Safety - multidisciplinary approach to LLL courses as the following:
-For the study: Reporting of cars and tractors
The aim of post-graduate studies is to educate students in the field of efficient problem solving related to the settlement of traffic damages and providing opinions on the causes of vehicle failures. The aim of post-graduate studies is to provide specialized, current and practically useful knowledge, and thus also new qualifications in the field of: construction and functioning of modern motor vehicles, analysis of the causes of damage and breakdown of vehicles, analysis of the causes of road accidents, legal and technical-analytical issues of expert work, computer technology, bases of opinion and description of road accidents. Lectures conducted by specialists and court experts cover, among others, technical and legal issues of road accidents and their reconstruction, causes and effects of failure of vehicle components and cost estimation of repairs and valuation of cars.

-For a course of study: Safety and diagnostics of motor vehicles
The aim of post-graduate studies in Automotive Safety and Diagnostics is to educate students in the field of efficient problem solving related to the diagnosis of automotive vehicles and their safety. The aim of the post-graduate studies is to obtain specialized, current and practically useful knowledge, and thus also new qualifications in the field of: construction and functioning of modern cars and the mechanics of their movement and safety in complex road situations, diagnostics and vehicle testing. Post-graduate studies are addressed to the employees of the broadly understood automotive base: service stations and garages, employees of the Vehicle Inspection Station, teachers of vocational schools with a car profile, specialists from other industries who want to gain new, valuable qualifications. The curriculum of the studies takes into account the competence requirements of the Transport Technical Supervision in the field of competence of car diagnosticians.

Programme of Studies
Number of ECTS credits needed to obtain a qualification (professional title): 64
Duration of studies (number of semesters): 2

-After this presentation Sławomir Tarkowski, LIJT presented Introduction in WP3 and WPA 3.2 Report on LLL by EU HEIs for traffic safety professionals with detailed analyses for each EU partner country and also general Report of the activity 3.2.
-Dragan Jovanovic, UNS Report on survey of citizens’ and public sector awareness in WB according to results we got from the submitted surveys within activity 3.1.
-Ivana Stanic, ABS, presented draft of the handbook and leaflet for realization activity related to trainings for traffic safety professionals activity 3.3. Preparation of trainings’ materials and selection of teachers (Draft handbook, leaflets and brochures for training).
-The last part of the first day of the Lublin meeting was devoted to the first QAC meeting (Report and Minutes within WP5 activity 5.2)

First day of the meeting was finished at 16 p.m.

Second day

The second day of training started with training with the following topics:

Visualization of a road project Janusz Bohatkiewicz, Marcin Dębiński
Road safety projects – Department of Roads and Bridges [1].
The performed analyses indicated that new roads of higher technical classes designed in accordance with the technical conditions for road design are adapted to emergency corridor formation. Similarly, slip roads on interchanges should not be a hindrance to emergency services, provided fast driver response is present. Surveys have demonstrated that one-third of drivers do not know how
to form a rescue corridor, at the same time claiming (in case of almost all drivers) that they know the rules of behavior during emergency services’ movement. Despite the increasing media coverage of emergency corridors and information campaigns, according to the paper’s authors, awareness and knowledge about safe behavior during traffic incidents are still insufficient. Providing help for accident victims should be regulated by provisions of the law which should provide privileges to emergency services, as well as penalties for drivers who break the rules (similar to the countries that have these provisions in force). It is necessary to introduce regulations concerning emergency corridor formation as soon as possible, and it is necessary to educate drivers with regard to this topic. The media present one of the most important roles in this area.

Application of eye tracking and motion capture in road traffic safety
Training and Workshop, Mariusz Dzieńkowski, Jakub Smołka

Eye tracking - research technique allowing the measurement, registration and analysis of the position and movement of the eyeballs. Eye trackers - allow to determine where, how long and in what order the gaze of the examined person is directed. Using this system it is possible to identify the place on which the subject’s eyes are focused. Thanks to the device, it is possible to study the impact of various factors on the way the driver observes the road. It is also possible to examine the reaction time of drivers in real-life conditions.

Automatic traffic measurement system - Optical motion capture system
A technique of capturing three-dimensional movements of actors and saving them in real time. Mapping the movements of recorded object to marker trajectories. Produces data ready for further processing. A technique used for supporting the animation process, as well as for motion studies.

After that during the fourth session activity 2.1. Definition of aims, specific competencies and learning outcomes of undergrad./master curriculum per HEI in WB have been discussed among partners and clarified exact template dates until all WB partners should make draft versions of curriculum within TRAFSAF project. Also information about tendering procedure for purchasing equipment was shared and information has been given from each WB partner what they have done within activity 2.4 so far.

After lunch break training was continued trough visiting laboratories and equipment in the facilities of LUT Campus with the following content:

Visiting laboratories and equipment for traffic safety education of the LUT
PTV Vissim - modeling of transport systems, Iwona Rybicka

Software empowers cities, traffic engineers in the decision-making process for creating an accessible, safe, sustainable and balanced mobility ecosystem through improving and solving traffic issues, such as congestion and emissions in cities. The program can replicate a wide range of advanced traffic management systems to increase traffic flow, road safety and secure road travel. The program can model all operational interventions and assess their effect on overall traffic flow. Detailed of geometry and individual vehicle behavior models to allow realistic localized conditions to be replicated. This program allows to analyze the traffic conditions of individual and collective, taking into account conditions such as lane configuration, structure by type of vehicles, the impact of traffic lights, public transport stops etc.
PC–CRASH Reconstruction of road accidents, Sławomir Tarkowski

PC-Crash allows you to simulate any road events. It was designed for experts in road accident reconstruction. By using PC-CRASH, it is possible to determine important accident parameters that could not be achieved by other methods. For example, it is possible to determine the speed of vehicles at the moment of collision, knowing the location of the accident and the place of collision. The program performs optimization several hundred times, calculating various collision parameters to determine the collision velocities. This cannot be done in any other way. In this way, the speeds and the course of the accident declared by the participants can be unequivocally confirmed or excluded. Only PC-CRASH allows you to make videos showing the accident and the movement of vehicles in the event of an accident. Vehicles in films made in the PC-CRASH program behave like real cars (in contrast to computer animations made in 3D graphic programs, often shown on TV). In the PC-CRASH program it is possible to show the course of a pedestrian hit-and-run or motorcycle accident.

Automatic traffic measurement system - Optical motion capture system
A technique of capturing three-dimensional movements of actors and saving them in real time. Mapping the movements of recorded object to marker trajectories. Produces data ready for further processing. A technique used for supporting the animation process, as well as for motion studies.

- 2.1 Definition of aims, specific competencies and learning outcomes of under./master curriculum per HEI in WB Drégelyi-Kiss Ágota, OU and WPA 2.4 Improvement of teaching environment and equipping of labs (Information about tendering procedures of WB HEI partners) were discussed at the end of the second day of the meeting.

Second day of the meeting was finished at 16 p.m.

Third day
Third day was devoted for practical training with visiting a few places important for improvement traffic safety.

1. Traffic control center on the Lublin city beltway
Lublin Beltway - expressway west, north and east of Lublin. The construction of its northern and eastern parts has been planned since 2005, took place in 2011–2014 and took place as part of the construction of the S12 / S17 express road. The western part of the beltway, planned since 1998, was built in 2014–2016 as a fragment of the S19 expressway. There are concepts for the construction of the southern section, class lower than the expressway. The main task of the Lublin beltway is to lead transit traffic out of the city center, which in 2014 was estimated at 20% of urban traffic, including 50% of entry traffic from Warsaw. It is to create better conditions for the development of investment, public transport and cycling. It is one of the three beltways in Lublin, next to the city and city center.

The Lublin ring road is a section of three expressways:
- north - south: S19 express road - Kuźnica - Białystok - Lublin - Rzeszów - Barwinek;
- north-west - south-east: S17 express road - (Warsaw) - Zakręt - Lublin - Zamość - Hrebenne - (Lviv);

2. Model of traffic deceleration system
Analysis of the effectiveness of traffic calming in terms of speed reduction and noise emissions: a case study on Provincial Road No. 824 in Puławy [2].

Calming traffic on the voivodeship road no. 824 in Puławy was introduced as part of a project carried out in the Włostowice housing estate. The main objective of the work completed in the winter of 2009 was to Improvement of road traffic safety in the Włostowice housing estate and on the section of the voivodeship road running on the outskirts of this housing estate. The urban section of the voivodeship road No. 824 is formed by Kazimierska Street and Włostowicka. It is the main axis of the southern road and street system, part of Puławy, and at the same time is the most frequently used access road to Kazimierz nad Wisłą, a popular recreational and holiday resort. Of this reason, the main assumptions for traffic calming on the urban section of provincial road No. 824 were as follows:

- maintaining the existing transit function of the road, however, while granting the following rights of way its speed limit enforcement features,
- verifying road accessibility and speed limits and ensuring that they are available enforcement through engineering measures,
- discouraging transit traffic from passing through the area of the housing estate (driving off the voivodeship road into the built-up areas) - by applying area-based traffic calming throughout the housing estate.

On the urban section of the voivodeship road (Kazimierska Street and Włostowicka Street) a comprehensive calming of traffic from the border of Puławy to the city of Puławy has been introduced. The intersection of Kazimierska Street with Głęboką Street and Skowieszyńska Street. They are located on before the typical elements for linear motion calming:

- Entrance gates to the village (built-up area) from the south;
- The elevated surfaces of the intersections;
- Crossings with separate lanes for left-hand turns;
- The central elevated and paved runway with variable width (driveable);
- A bicycle path connected with the network of bicycle paths in the city;
- New bus bays at bus stops.

3. Trip to Kazimierz Dolny

Third day of the meeting was finished at 17 p.m.
## Attachments

<table>
<thead>
<tr>
<th>Agenda (pdf)</th>
<th>Agenda</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendance list (pdf)</td>
<td>Attendance lists</td>
</tr>
<tr>
<td>Photos (jpg)</td>
<td>Photos</td>
</tr>
<tr>
<td>Presentations (pdf)</td>
<td>TRAFSAF Training meeting presentations</td>
</tr>
</tbody>
</table>

**First day presentations**
- International mobility projects at LUT  
  Celina Handzel  
  Traffic Safety - multidisciplinary approach to LLL courses  
  Pawel Drozdziel, LUT
- Introduction in WP3 and WPA 3.2 Report on LLL by EU HEIs for traffic safety professionals  
  Sławomir Tarkowski, LUT
- WPA 3.1 Report on survey of citizens’ and public sector awareness in WB  
  Dragan Jovanovic, UNS
- WPA 3.3 Preparation of trainings’ materials and selection of teachers  
  (Draft handbook, leaflets and brochures for training)  
  Ivana Stanic, ABS

**Second day presentations**
- Automatic traffic measurement system Visualization of a road project  
  Janusz Bohatkiewicz  
  Marcin Dębiński
- Application of eye tracking and motion capture in road traffic safety – Training and workshop  
  Mariusz Dzieńkowski  
  Jakub Smółka
- 2.1 Definition of aims, specific competencies and learning outcomes of underg./master curriculum per HEI in WB  
  Drégelyi-Kiss Ágota, OU and Predrag Stanojevic TCASU

**Third day Visit of**
- Traffic control center on the Lublin city beltway
- Model of traffic deceleration system  
  (Puławy – Kazimierz Dolny)
Other personal remarks

The meeting was organized at the highest level.

In Lublin

27th June 2019
Event Report

Organisation details

| Date of event material release | 27th June 2019 |
| Date of participants list's finalization | 27th June 2019 |
| Date of agenda finalization | 17th June 2019 |

Comments

Problems encountered during the event preparation phase

Please add your comments, if any:

Strengths and limitations of the event (please include comments received)

| Strengths of the event and contributions or activities by participants | Good interaction and experience exchange between participants
Presentations were very useful
Presented topics were of great importance for the progress of the project especially for the activities which are milestone for the project as it is activity training of teaching staff, report on LLL courses, survey report from WB countries and presentation of draft handbook and leaflets for training of professionals in traffic safety which will be conducted among WB partners.
Friendly atmosphere coupled with useful discussion
Great overview of the project results |

Suggestions for the improvement

All EU and WB partners should be present
All partners should send presentations on time in order to prepare the meeting efficiently

Any further comments

The organization and hosts completely met all organization details and meeting organized at the highest level
EVENT EVALUATION BY PARTICIPANTS IN PERCENTAGE

The general organization of the meeting

<table>
<thead>
<tr>
<th>Grading</th>
<th>Poor</th>
<th>OK</th>
<th>Good</th>
<th>Very Good</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logistic preparation and organization of meeting</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4.97</td>
<td>95.03</td>
</tr>
<tr>
<td>Content of the Agenda</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4.97</td>
<td>95.03</td>
</tr>
<tr>
<td>Arrangements of the meeting (venue, equipment, etc.)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4.9</td>
<td>95.1</td>
</tr>
</tbody>
</table>

Comment:

The general organization of the meeting

Average grade
### General working communication

<table>
<thead>
<tr>
<th></th>
<th>Grading</th>
<th>Poor</th>
<th>OK</th>
<th>Good</th>
<th>Very Good</th>
<th>Excellente</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication before the meeting</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>9.37</td>
<td>90.63</td>
<td></td>
</tr>
<tr>
<td>Duration and timetable of the meeting</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>12.5</td>
<td>87.5</td>
<td></td>
</tr>
<tr>
<td>Quality of materials provided during the meeting</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>12.5</td>
<td>87.5</td>
<td></td>
</tr>
<tr>
<td>Quality of presentations</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>18.75</td>
<td>81.25</td>
<td></td>
</tr>
<tr>
<td>Communication between the coordinator of the project and the other partners</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3.12</td>
<td>96.88</td>
<td></td>
</tr>
<tr>
<td>Engagement of the participants in the activities and discussions</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6.25</td>
<td>93.75</td>
<td></td>
</tr>
<tr>
<td>Objectives in the agenda regarding the TRAFSAF project are reached</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3.12</td>
<td>96.88</td>
<td></td>
</tr>
</tbody>
</table>

### Average grade

![Bar chart showing the average grades for different aspects of the meeting.](image-url)
### Overall success of the meeting

<table>
<thead>
<tr>
<th></th>
<th>Grading</th>
<th>Poor</th>
<th>OK</th>
<th>Good</th>
<th>Very Good</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mode of reaching the decisions at the meeting</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6.25</td>
<td>93.75</td>
</tr>
<tr>
<td>Opportunities to express your opinion and influence decisions</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>12.5</td>
<td>87.5</td>
</tr>
<tr>
<td>Achievement of the meeting and project goals</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3.12</td>
<td>96.88</td>
</tr>
<tr>
<td>Discussion of tasks for the upcoming activities and meetings</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>9.37</td>
<td>90.63</td>
</tr>
<tr>
<td>Assignment of follow-up tasks</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>100</td>
</tr>
</tbody>
</table>

#### Average grade

![Average grade chart](chart)

"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein"