

# Report on International Conference in Tashkent: Emerging Trends and Challenges in Sustainable Transportation

PROJECT INFO	
Project title	Sustainable transportation within the framework of green deal
Project acronym	SPHERE
Call	ERASMUS-EDU-2023-CBHE-STRAND-2
Project number	101082860
Funding scheme	Capacity Building in the field of Higher Education: Strand 2
Web address	<a href="http://www.sphere.pr.ac.rs">www.sphere.pr.ac.rs</a>
Coordination institution	University of Mitrovica
Project duration	01 March 2024 – 28 February 2027

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## EVENT DESCRIPTION

<b>Date</b>	15-16 September 2025
<b>Author (s)</b>	Sanjar Ruzimov, Nebojsa Arsic, Aleksandra Petrovic, Branimir Jaksic, Dragoljub Stasic
<b>Institution</b>	Turin Polytechnic University in Tashkent (TTPU)
<b>Event title</b>	International Conference in Tashkent: Emerging Trends and Challenges in Sustainable Transportation
<b>Event description:</b>	
<p><b>Introduction</b></p> <p>International Conference entitled “EMERGING TRENDS AND CHALLENGES IN SUSTAINABLE TRANSPORTATION” was held on 15th – 16th September, 2025 in Turin Polytechnic University in Tashkent within the framework of ERASMUS+ Project Sustainable Transportation within the Framework of Green Deal - SPHERE (Project: 101128065).</p> <p>The opening ceremony was held on Monday, 15th September 2025 in Main building, Conference Hall. Starting from Participants registration, the conference started at 10:00 a.m.</p> <p><b>Event description</b></p> <p>Welcome speeches were performed by TTPU Vice-Rector Bakhtiyor Yokubov, Head of Department of Mechanical and Aerospace Engineering Dr. Jasur Kholkhujayev and the Rector of the coordinating university - UPKM Prof. Dr. Nebojsa Arsic.</p> <p>In the Plenary session presentations from keynote speakers were presented. The topics of the presentations and the presenters are listed below:</p> <ul style="list-style-type: none"> <li>• The management of public transport: the accessibility, affordability and equity challenge by professor Marjan Lep and Mr. Dušan Zalar from University of Maribor;</li> <li>• Prospects for the Development of Sustainable Transport in the Republic of Uzbekistan: The Case of the City of Bukhara by Mr. Murad Abidov, vice-director, Transport Scientific Research Center, UZTT;</li> <li>• Achieving Sustainable Development Goals through Implementation of the SPHERE Erasmus + CBHE Project by Dr. Aleksandra Petrovic an Erasmus+ officer from UPKM;</li> <li>• On dynamics of EV/HEV market development in Uzbekistan by Mr. Seyran Asanov and Dr. Fikret Umerov from TTPU;</li> </ul>	

- Framework for authorization of automated vehicle testing in Spain by professor Slobodan Bojanic and Felipe Jiménez from UPM.

The first half of the day was finalized with an Opening Ceremony of the Sustainable Urban Mobility Laboratory that was established withing the framework of SPHERE project at Turin Polytechnic University in Tashkent. The participants had opportunity to get information about the laboratory equipment purchased during the project implementation.

During the second half of the first Conference day, third session in four parallel thematic sessions have been organized as it is shown in the table below.

Parallel Sessions:

- 1.Sustainable Transportation and Decarbonization Strategies (B1-room)
- 2.Urban Mobility and the Transition to Electric Transportation (204- room)
- 3.Innovations in Sustainable Transportation Education and Research(205-room)
- 4.Legal Frameworks, Policies, and Regulations for Sustainable Transportation(206-room)

<b>Third Session:</b>		
<b>Monday, 15th September 2025</b>		
<b>Sustainable Transportation and Decarbonization Strategies</b>		
<b>Main building, B1- room</b>		
14:30-14:50	Design of sustainable transport road infrastructure in the city of Tashkent	Sh. Abulkosimov, TSTU
14:50-15:10	Influence of traffic volume and heavy vehicle proportion on pollutant concentrations on multi-lane urban street	Kudratulla Azizov (TSTU), Amir Beketov (TSTU), Abulkosimov Shokhzod (KIUT)
15:10-15:30	Digital method of monitoring vehicle exhaust gases	Ravshanbekov Jahongir Alisher o'g'li, TSTU
15:30-15:50	Calculation method for gasoline engine exhaust gas emission prediction	Numanov Muxammadalishoxruxbek Zokirjon o'g'li, TSTU
15:50-16:10	Determining the environmental impact based on the tire wear calculation method	Tuxtamishev Sobit, TSTU

16:10-16:30	Methods for emission reduction in motor vehicle	Xakimov Shaukat Kudayberganovich, TSTU
16:30-16:50	The brief review of the influence of variable depth tillage on tractor fuel consumption	Aziza Tajmuradova, TTPU
<b>Urban Mobility and the Transition to Electric Transportation</b> <b>Main building, 204- room</b>		
14:30-15:00	Plug-in hybrid electric vehicles: market and technology overview	Komiljon Tulaganov, Shafkatbek Alimov, TTPU
15:00-15:30	Electrification of carrier dump trucks in the condition of exploitation of Uzbekistan	Anvarjonov Ahmadjon Akmaljon o'g'li, TSTU
15:30-16:00	Sustainable mining transportation: a comparative study of the efficiency of CAT 793D and Komatsu 830E-1AC	Yusupov Umidbek, TSTU
16:00-16:30	The importance of the green wave traffic management method on urban highways	Choriyev Jakhongir, TSTU
16:30-17:00	The impact of vehicles with automatic transmission on traffic flow speed in urban streets	Fayzullayev Erkin, Choriyev Jakhongir, TSTU
17:00-17:30	Analysis of factors affecting the safety of bicycle traffic in cities	Islamov Elyor, KIUT
<b>Innovations in Sustainable Transportation Education and Research</b> <b>Main building, 205- room</b>		
14:30-15:00	Modern Technologies in Driver Training and Their Future	Baboev Alijon, JBNUU
15:00-15:30	Analysis of decision-making systems in urban road pavement maintenance	Jumayev Fakhriddin Kenja o'g'li (TSTU), Yunusov Abduvokhid Gofurovich (KIUT)

15:30-16:00	The use of a driving simulator to improve education in traffic engineering	Turaev Azamat Alisher ugli, assistant teacher, KIUT
16:00-16:30	Analysis of modern methods for calibrating parameters in microscopic modeling of transport flows	D. Urunov, TSTU
16:30-17:00	AI-powered Sustainable Transportation: Emerging trends, challenges and future directions	S.Riskulova, TTPU
17:00-17:30	Evaluation of a signalized intersection using PTV Vissim	E.Islamov, S.Pardabayev, KIUT
<b>Legal Frameworks, Policies, and Regulations for Sustainable Transportation</b> <b>Main building, 206-room</b>		
14:30-15:00	A Framework for Quantitative Drivability Indexes in Electric Vehicles	Tadjiyev Zafar, TTPU
15:00-15:30	Implementation of paid parking systems in Tashkent city	Xudayberdiev Ziyadilla, KIUT
15:30-16:00	The importance of audit in ensuring road traffic safety	Xudayberdiev Ziyadilla, Abulkosimov Shokhzod, KIUT
16:00-16:30	Justification of technical specifications for car parking	Abdurakhmanov Zokhidjon, JBNUU
16:30-17:00	Recommendation of design vehicle parameters for vehicle parking in urban conditions	Usmanov Salakhdin, JBNUU
<p>The second day (16<sup>th</sup> September) of the conference, which started after participants registration at 10:00 a.m., special session within the SPHERE Erasmus + project has been organize and the scientific papers were presented as follows:</p> <ol style="list-style-type: none"> <li><i>Safety and sustainable mobility of pedestrians: a case study of the Republic of Serbia</i> Miloš Pljakić, Predrag Stanojević, Aleksandra Petrović, Nebojša Arsić, Jelena Rajović, UPKM</li> </ol>		

2. *Enhancement of urban mobility infrastructure using shunted piezoelectric systems for vibration suppression* Konstantinos Marakakis, Maria-Styliani Daraki, Evangelos Synnefakis, Konstantinos Igglezakis, Georgios E. Stavroulakis, Technical University of Crete
3. *The optimization of energy use for public transport: a comparison of three energy storage integration approaches* Danijel Hojski, Chiara Gruden, Mitja Klemenčič, Marijan Španer, Vlasta Rodošek, University of Maribor
4. *Analysis of the method of determining exhaust gases in the engine idle mode* Diyor Turgunov, Akmal Mukhitdinov, TSTU
5. *Transition to electric bus transportation: a step towards a sustainable future* Kudrat Kutlimuratov, Akmal Mukhitdinov and Abdugani Kaxxorov, KIUT
6. *The impact of parking cars in urban conditions on traffic volume and composition* Abdurakhmanov Zokhidjon, JBNUU

In line with the purposes of the T7.7 Promotion of ST and promotion of the project results, after the Second day agenda realization the official visits to SPHERE project partners: Tashkent State Transport University (TSTRU) and Kimyo International University in Tashkent (KIUT) were organized. Opening ceremonies of established laboratories were held. In TSTU the conference participants met with newly enrolled students to the Sustainable Transport program established within the SPEHERE project.

### Conclusions

At the conclusion of the second day of the conference, participants highlighted the following key takeaways:

1. **Sustainable Transport** – The presented papers confirmed the importance of innovative solutions in pedestrian safety, optimization of energy efficiency in public transport, the adoption of electric vehicles, and improvements in urban mobility infrastructure. The need for further development of environmentally friendly transport systems was particularly emphasized, aligning with global sustainable development goals.
2. **SPHERE Project** – The program's implementation, including the opening of new laboratories at Turin Polytechnic Tashkent University (TTPU), Tashkent State Transport University (TSTU) and Kimyo International University in Tashkent (KIUT), demonstrated the project's success in supporting education and research in sustainable transport. The introduction of the *Sustainable Transport* study program at TSTU represents a crucial step in preparing experts for future challenges in the sector.
3. **International Collaboration** – Visits to partner institutions and the exchange of experiences among SPHERE project participants underscored the importance

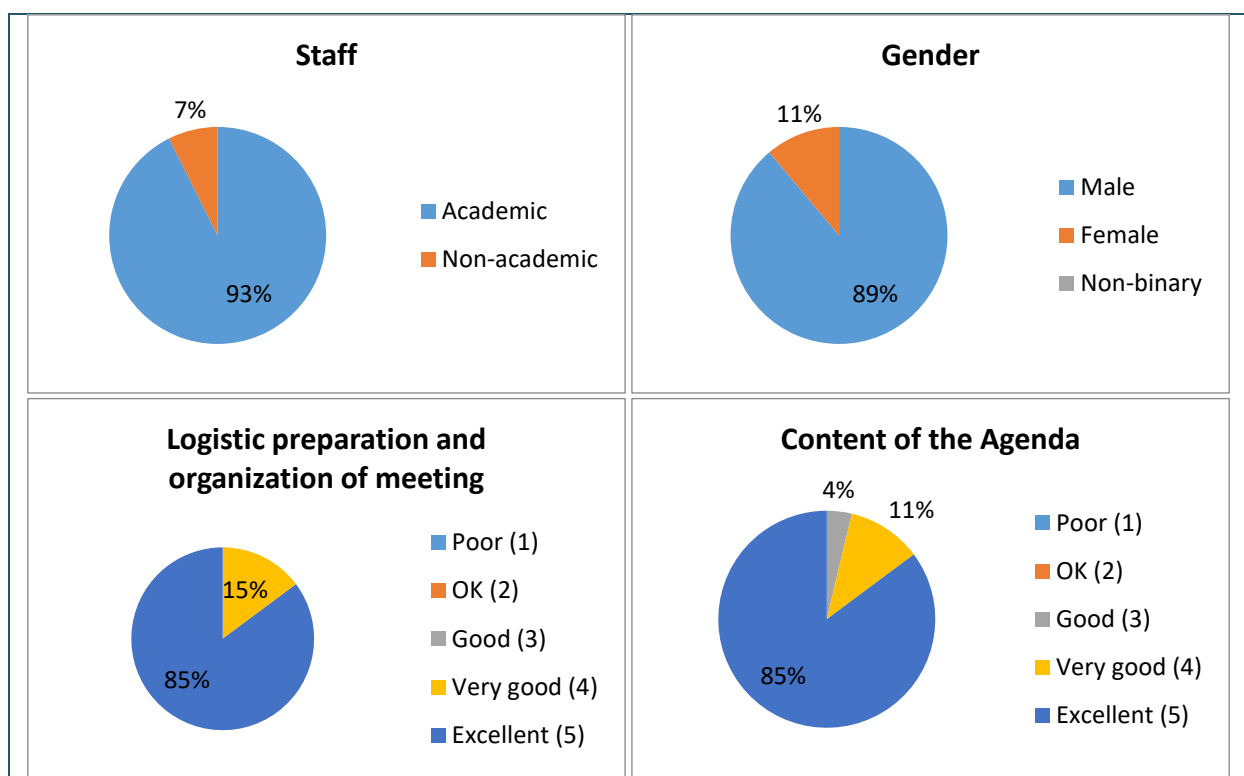
of continued regional and global cooperation. The conference provided a platform for future joint projects, research, and the promotion of sustainable transport technologies.

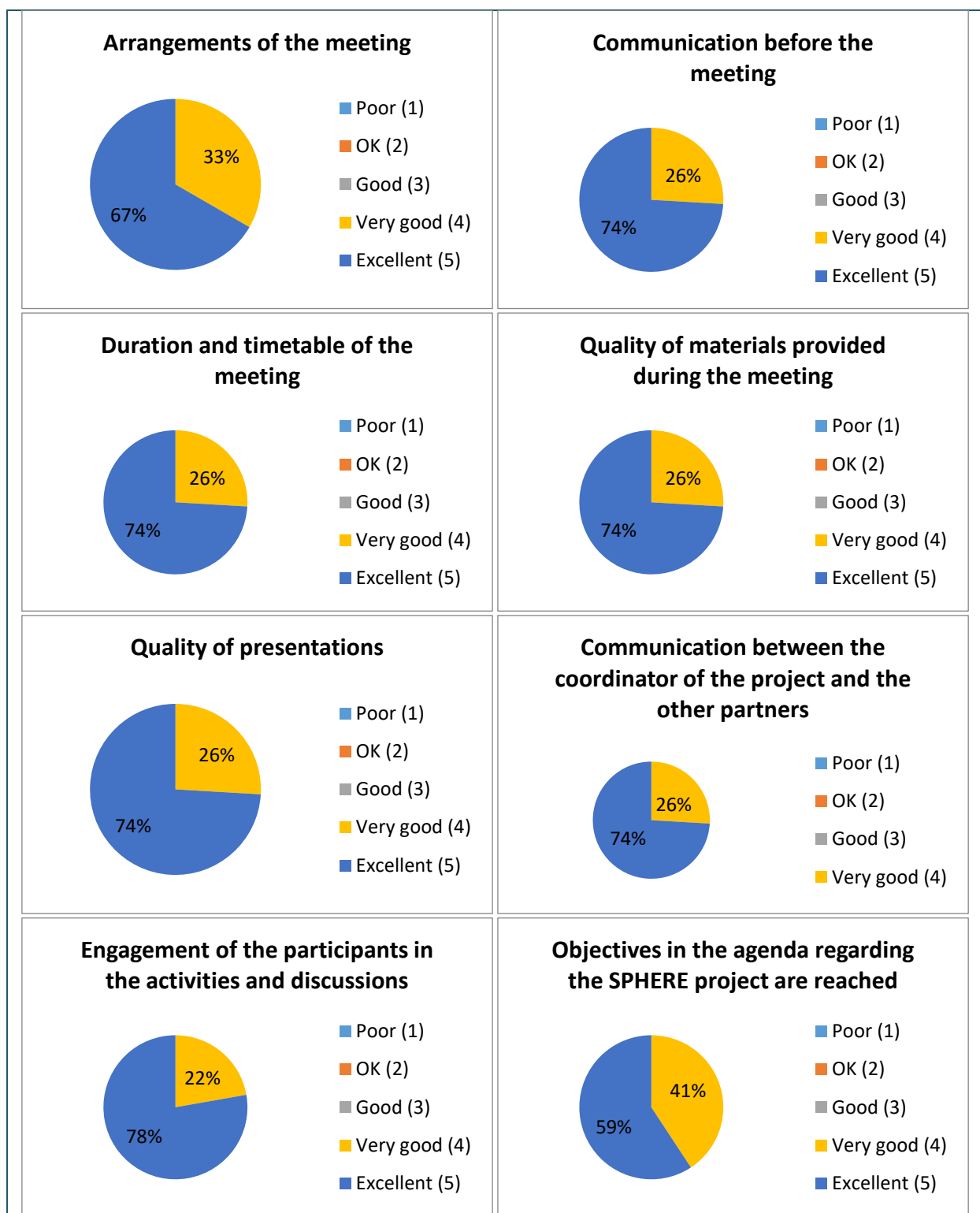
The comprehensive discussions and presented results confirm that a combination of scientific research, educational innovation, and international support is essential for achieving sustainable transport goals in the future.

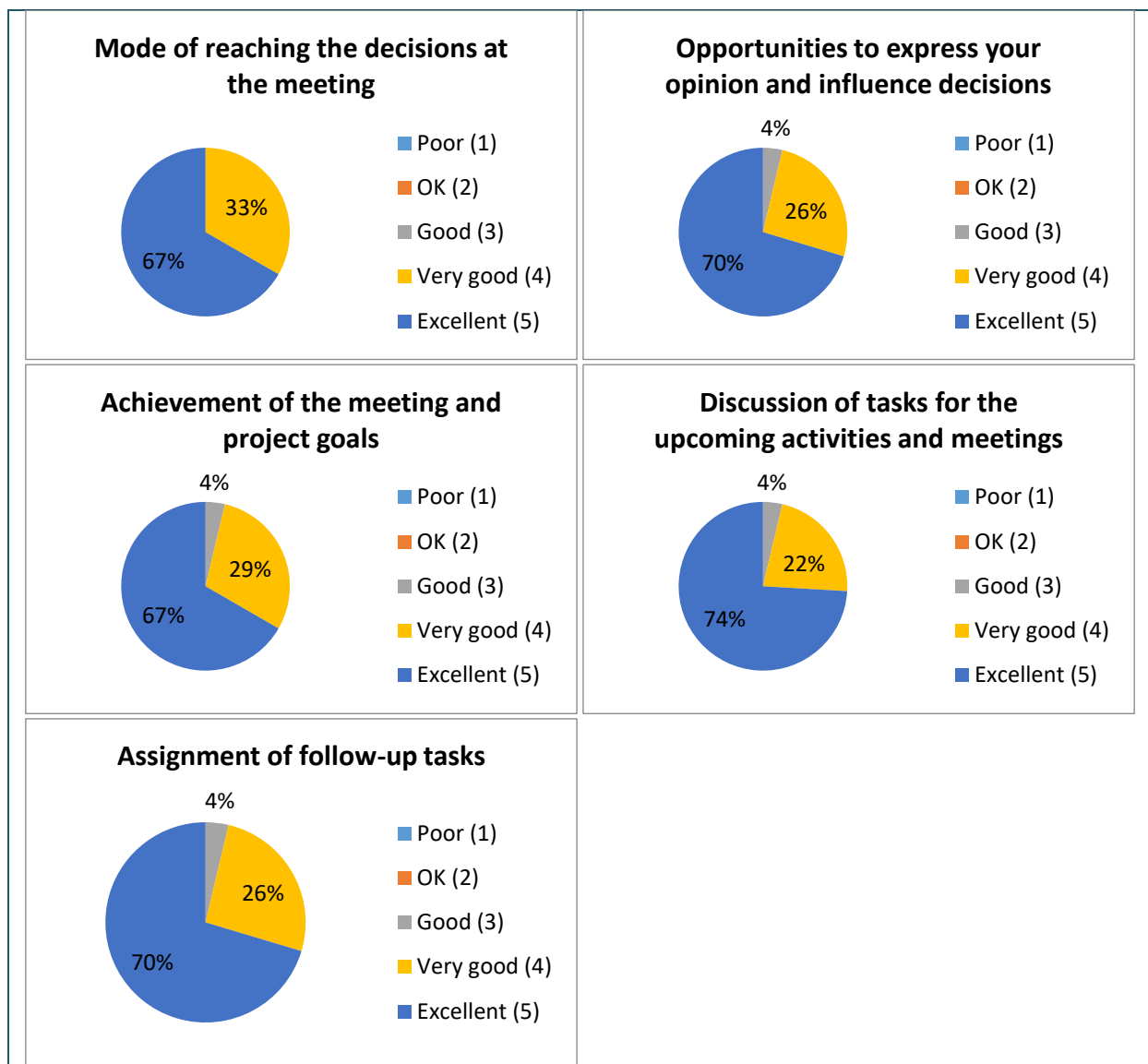
Conference Proceedings:

<https://sphere.pr.ac.rs/wp-content/uploads/SPHERE-Proceedings-Symposium-at-TTPU-in-Tashkent.pdf>

## Event Evaluation List







## Attachments

<b>Agenda (PDF)</b>	Conference Agenda
<b>Attendance list (PDF)</b>	Conference Attendance list
<b>Presentations (PPT)</b>	<p>First day presentations:</p> <ol style="list-style-type: none"> <li><i>The management of public transport: the accessibility, affordability and equity challenge</i> by professor Marjan Lep and Mr. Dušan Zalar from University of Maribor</li> <li><i>Prospects for the Development of Sustainable Transport in the Republic of Uzbekistan: The Case of the City of Bukhara</i> by Mr. Murad Abidov, vice-director, Transport Scientific Research Center, UZTT</li> <li><i>Achieving Sustainable Development Goals through Implementation of the SPHERE Erasmus + CBHE Project</i></li> </ol>

	<p>by Dr. Aleksandra Petrovic an Erasmus+ officer from UPKM</p> <p>4. <i>On dynamics of EV/HEV market development in Uzbekistan</i> by Mr. Seyran Asanov and Dr. Fikret Umerov from TTPU</p> <p>5. <i>Framework for authorization of automated vehicle testing in Spain</i> by professor Slobodan Bojanic and Felipe Jiménez from UPM</p> <p>Second day presentations:</p> <p>7. <i>Safety and sustainable mobility of pedestrians: a case study of the Republic of Serbia</i> Miloš Pljakić, Predrag Stanojević, Aleksandra Petrović, Nebojša Arsić, Jelena Rajović, UPKM</p> <p>8. <i>Enhancement of urban mobility infrastructure using shunted piezoelectric systems for vibration suppression</i> Konstantinos Marakakis, Maria-Styliani Daraki, Evangelos Synnefakis, Konstantinos Igglezakis, Georgios E. Stavroulakis, Technical University of Crete</p> <p>9. <i>The optimization of energy use for public transport: a comparison of three energy storage integration approaches</i> Danijel Hojski, Chiara Gruden, Mitja Klemenčič, Marijan Španer, Vlasta Rodošek, University of Maribor</p> <p>10. <i>Analysis of the method of determining exhaust gases in the engine idle mode</i> Diyor Turgunov, Akmal Mukhitdinov, TSTU</p> <p>11. <i>Transition to electric bus transportation: a step towards a sustainable future</i> Kudrat Kutlimuratov, Akmal Mukhitdinov and Abdugani Kaxxorov, KIUT</p> <p>12. <i>The impact of parking cars in urban conditions on traffic volume and composition</i> Abdurakhmanov Zokhidjon, JBNUU</p>
Photos (JPG)	

