

TOT Workshop at University of Deusto

Event type	Training Workshop
WP Number	3
WP Leader	NTUA
Event date	09/01/2023 – 13/01/2023
Number of Participants	13
Total number of pages	14

Project Coordinator

Prof Ahmed Al-Salaymeh,

The University of Jordan (UJ)

Queen Rania Street | Amman 11942, Jordan

Tel: +962-6-53 55 000 Ext. 22816 | Fax: +962-6-53 00 237

Email: Eco-car@ju.edu.jo

Project website: <http://sites.ju.edu.jo/en/ECO-CAR/Home.aspx>



1 Event Description

The training workshop in Deusto was focused on the fundamentals and the application of Vehicle Dynamics in electric vehicles. Knowledge of university of Deusto Members was transferred to the participants via lectures, practical work, informal discussions, and lab visit.

During the first day, the participants were welcomed by the Vice Rector of International Relationship, introduced to the week's program and a visit to the university facilities was organized including the FabLab. Also, fundamental of Human Comfort theory were explained via lecture.

The second day started with a lecture on comfort modelling on electric vehicles, which focused on standards, models and variables involved in vehicle dynamics comfort modelling. Also, the vehicle modelling software was introduced and an example was developed by the lecture. The participants did some simulations with a previously prepared model to understand the theoretical concepts explained. Also, FFT theory was introduced to calculate the comfort model.

On the third day, the participants developed a dynamic model of a Renault Twizy using carmaker and they performed several simulations to characterize the dynamic behaviour of the vehicle. Due to the heavy rain, the experimental measurements, were substituted by an optimization of the vehicle model dynamics

On the fourth day the group visited MUBIL (<https://www.mubil.eus/en/>)

On the fifth day the participants visited the Smart Moto Challenge laboratory in the University of Deusto and discussed about on board intelligence systems, mechanical design of prototypes and several related topics. Finally, the closing ceremony included the awarding diploma to the participants

2 Agenda

09 January 2023

09:30 – 18:00 CET

University of Deusto, Faculty of Engineering

Avenida de las Universidades 24, Bilbao

Room E207

09:30 - 10:00	Registration
10:00 - 11:00	Welcome Alex Rayon, Vice-Rector for International Relations and Digital Transformation, University of Deusto Asier Perillos Ruiz, Dean of Faculty of Engineering, University of Deusto Ahmed Al-Salaymeh, ECO-CAR General Coordinator, University of Jordan
11:00 - 11:30	Coffee Break
11:30 - 12:30	Fab Lab tour/visit



12:30 - 14:30	Lunch
14:30 - 16:30	Human Comfort Theory
16:30 - 17:00	Closing



10 January 2023

09:30 – 18:00 CET

University of Deusto, Faculty of Engineering

Avenida de las Universidades 24, Bilbao

Room E207, E109

<p>09:30 - 11:00</p>	<p>Comfort Modelling</p> <p>Dr. Jon García Barruetabeña Director of the Master's Degree in Automotive Design and Manufacturing</p>
<p>11:00 - 11:30</p>	<p>Coffee Break</p>
<p>11:30 - 12:30</p>	<p>Vehicle modelling using Car Maker Software</p> <p>Dr. Jon García Barruetabeña Director of the Master's Degree in Automotive Design and Manufacturing</p> <p>Room E109</p>
<p>12:30- 14:00</p>	<p>Lunch</p>
<p>14:00 - 15:15</p>	<p>Renault Twizy modelling using Car Maker Software</p>
<p>15:30 - 16:30</p>	<p>Fast Fourier Transform</p>
<p>16:30 - 17:00</p>	<p>Closing</p>



11 January 2023

09:30 – 18:00 CET

University of Deusto, Faculty of Engineering

Avenida de las Universidades 24, Bilbao

Room E207, E109

<p>09:30 - 11:00</p>	<p>Renault Twizy Measurements</p> <p>Dr. Jon García Barruetaña Director of the Master's Degree in Automotive Design and Manufacturing</p> <p>Room E004</p>
<p>11:00 - 11:30</p>	<p>Coffee Break</p>
<p>11:30 - 12:30</p>	<p>Renault Twizy Measurements</p> <p>Dr. Jon García Barruetaña Director of the Master's Degree in Automotive Design and Manufacturing</p> <p>Experimental measurements</p>
<p>12:30 - 14:00</p>	<p>Lunch</p>
<p>14:30 - 16:30</p>	<p>Measurement Postprocessing</p> <p>Dr. Jon García Barruetaña Director of the Master's Degree in Automotive Design and Manufacturing</p> <p>Room E109</p>
<p>16:30 - 17:00</p>	<p>Closing</p>



12 January 2023
09:30 – 18:00 CET
Usabal Poligonoa, 127
Tolosa, Gipuzkoa
<https://www.mubil.eus/en>

09:00 - 10:30	Transfer to MUBIL
10:30 - 13:00	Visit to MUBIL
13:00 - 15:30	Transfer to Tolosa and Lunch
15:30 - 17:00	Transfer and return to Bilbao



13 January 2023

09:30 – 18:00 CET

University of Deusto, Faculty of Engineering

Avenida de las Universidades 24, Bilbao

Room E207

09:30- 10:30	Presentation of the Master in Automotive Manufacturing and Design. Collaboration opportunities Room E207
10:30 - 11:00	Visit to Deusto Moto Team Faculty of Engineering, University of Deusto
11:00 - 11:30	Coffee Break
11:30 - 12:30	CRAI tour – UD Learning Center
12.30 - 14:00	Lunch
14:00 - 15:00	Certificates of Attendance Closing of the Workshop

3 Attendance sheet

ERASMUS+ PROGRAMME
Project Number: 618509-EPP-1-2020-1-JO-EPPKA2-CBHE-JP
ECO-CAR Project

“Vocational Training Diploma on Electrical and Hybrid Vehicles”
Staff Training Workshop – University of Deusto
Jan 9th – 13th, 2023



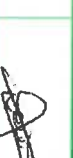






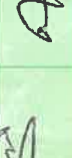










No.	Participant Name	Institution	Signatures				
			Mon. 09.01.23	Tues. 10.01.23	Wed. 11.01.23	Thurs. 12.01.23	Fri. 13.01.23
1.	Dr. Bahsar Qawasmeh	UJ					
2.	Dr. Mohammad Mashagbeh	UJ					
3.	Dr. Ahmad Abu-elrub	JUST					
4.	Dr. Issam Smadi	JUST					
5.	Prof. Nabeel Alshabatat	TTU					
6.	Dr. Wail Adailleh	TTU					



Co-funded by the
Erasmus+ Programme
of the European Union

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.



No.	Participant Name	Institution	Signatures				
			Mon. 09.01.23	Tues. 10.01.23	Wed. 11.01.23	Thurs. 12.01.23	Fri. 13.01.23
7.	Eng. Alaa Alda'amsah	HTU					
8.	Eng. Tahani Ghaben	HTU	Tahani	Tahani	Tahani	Tahani	Tahani
9.	Eng. Fatima Elfauri	ASU	FF	FF	FF	FF	FF
10.	Eng. Rania Obied	ASU					
11.	Dr. Ashraf Abu-ein	BAU					
12.	Dr. Mohamad Okour	BAU					
13.	Eng. Moayad Khashan	ZUJ	Mo Khashan	Mo Khashan	Mo Khashan	Mo Khashan	Mo Khashan
14.							
15.							
16.							





4 PPTs for training material

All the materials were provided to the participants via Google Drive (https://drive.google.com/open?id=1yIVxJJbsgy9NxJZ0f79CeV9CnV5NHB0q&authuser=jgarcia.barruetabena%40deusto.es&usp=drive_fs)



Co-funded by the
Erasmus+ Programme
of the European Union



5 Video

6 Photos





