



ECO-CAR NEWSLETTER

5th Issue - Feb 01, 2023, to July 15, 2023

Vocational Training Diploma on Electrical and Hybrid Vehicles / ECO-CAR 2021- 2024

Project Facts

Type: Erasmus+ Programme

Grant Holder: The University of Jordan (UJ)

Duration: 3 Years

Start Date: 15 January 2021

UNDER "ERASMUS+ CAPACITY BUILDING IN THE FIELD OF HIGHER EDUCATION"

Project Profile

ECO-CAR ECO-CAR is a 3-years project that started on the 15th January, 2021 and is co-funded by the Erasmus+ programme of the European Union. It is coordinated by The University of Jordan (UJ) with 13 Jordanian and European partners.

The main objective of ECO-CAR project is to develop a multidisciplinary diploma in the field of Electrical and Hybrid cars as well as to bring together and strengthen the cooperation between companies and HEIs.

The primary purpose of this project is to develop the capacities in the field of Electrical and Hybrid cars in Jordan, and bring together and strengthen the cooperation between companies and HEIs through empowering the engineers with needed skills that meet the market need. This include providing specialized engineers to work in servicing and maintaining EV/HEV companies and also providing the vocational training centers with qualified trainers to graduate qualified technicians that able to meet market needs.

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 Eco-Car



PARTNERS



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WORK PACKAGES

WP1. Establishing university-enterprise cooperation network

WP2: Baseline Study

WP3: Capacity Building

WP4: Establishment of EV/HEV labs

WP5: Developing ECO-CAR Professional Diploma

WP6: Quality and Impact Evaluation

WP7: Dissemination and Sustainability

WP8: Management

WP1:

ESTABLISHING UNIVERSITY-ENTERPRISE COOPERATION NETWORK

Duration: M25 to M30

Lead University: Jordan University of Science and Technology (JUST)

Co-Lead University: Al-Hussein bin Abdullah II Technical University (HTU)

WORKSHOP WITH ECO-CAR STAKEHOLDERS

10 of May 2023

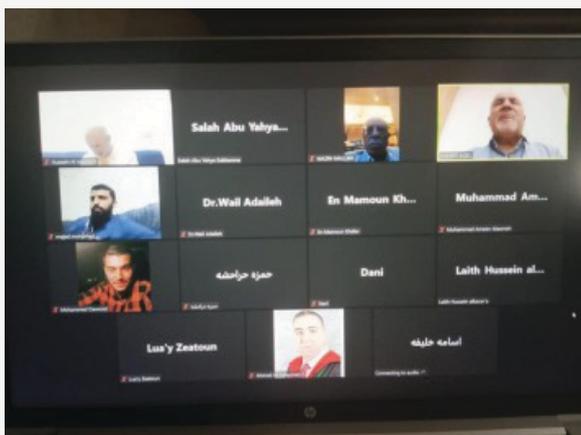
The stakeholders who registered in the network as members of the Eco-Car project were invited to this Workshop.

Event Main Objective

- Share the experience of Automotive Technology Academy, University of Jordan and Tafila Technical University in the field of EV and HEV cars.
- Exchange information and show up the main challenges facing the implementation of the vocational diploma.
- Discuss the number of students registered in the vocational diploma of the project, which can be absorbed by each stakeholder.

Event Main Results and Achievements

- Engagement of stakeholder in the project's activities and implementation
- Cooperation with stakeholders for training of diplomas students in different universities.



WP3: CAPACITY BUILDING

Duration: M25 to M30

Lead University: NTUA

Co-Lead University: ASU, BME, RWTH Aachen

ECO-CAR STAFF TRAINING AT TTU FROM DEUSTO & RWTH AACHEN UNIVERSITIES TOT

06 of March 2023

The workshop was conducted by Tafila Technical University (TTU).

Event Main Objective

- Knowledge transfer from the UD (University of Deusto) experience to the TTU staff and students
- Knowledge transfer from the RWTH Aachen experience to the TTU staff and students
- Educate the TTU staff about the new developments in vehicle dynamics and modern advances in battery technology.
- Implant new teaching materials in the course materials of the diploma programs.

Event Main Results and Achievements

- Start up a road map for course development based on the provided information.
- Improve the experience of the TTU staff to carry on with the diploma teaching.
- Direct the staff research towards new scopes in the automotive field of research.



WP3: CAPACITY BUILDING

Duration: M5 to M33

Lead University: NTUA

Co-Lead University: ASU, BME, RWTH Aachen

TRAINING OF TRAINERS WORKSHOP AT THE TECHNISCHE HOCHSCHULE OSTWERSTFALEN-LIPPE (TH OWL)

8-12 of May 2023

A training workshop was conducted in Höxter, Germany via TH-OWL University on May 8th – 12th, 2023.

Event Main Objective

- Focus on the fundamentals and the application of electrical machines and drivers, as well as on Hydrogen production and use.
- Visit the city Höxter and the event “flower exhibition Höxter 2023”.
- Visit the laboratories of the innovation campus Lemgo, including the process automation center, as well as energy storage laboratory (Power to Gas and Hydrogen plants).
- Visit the smart Factory and Future Food Factory and Innovation center.

Event Main Results and Achievements

- Professors and engineers attended the workshop from local parties.
- The participants started with execution of experiments in the laboratory of the department of renewable energies and decentralized energy supplying.
- Visited the laboratories of the innovation campus Lemgo, including the process automation center, as well as energy storage laboratory (Power to Gas and Hydrogen plants).



Erasmus+ Programme, ECO-CAR Project Number: 618509-EPP-1-2020-1-JO-EPPKA2-CBHE-JP

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WP3: CAPACITY BUILDING

Duration: M5 to M33

Lead University: NTUA

Co-Lead University: ASU, BME, RWTH Aachen

STUDENTS WORKSHOP AT THE TECHNISCHE HOCHSCHULE OSTWERSTFALEN-LIPPE (TH OWL)

12-23 of June 2023

A training workshop for students was conducted in Hoxter, Germany via TH-OWL University on June 12th – 23rd, 2023.

Event Main Objective

- Focusing on the fundamentals and the application of electrical machines and drivers, as well as on Hydrogen production and use.
- Practical investigations in the laboratories of TH OWL and an excursion to the innovation power plant center and center for hydrogen production
- Smart grid was deepened by further experiments.
- Energy generation using photovoltaics.
- Experiments on the topic of wind turbines were continued in Höxter

Event Main Results and Achievements

- Students have attended the workshop from local parties.
- The participants started with execution of experiments in the laboratory of the department of renewable energies and decentralized energy supplying.
- An innovation center of power plants was visited.



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WP4:

ESTABLISHMENT OF EV/HEV LABS

Duration: M25 to M30

Lead University: BAU

Co-Lead University: UJ, JUST, NTUA

ECO-CAR CENTER OPENING CEREMONY BY UJ

07 of June 2023

Event Main Objective

- The opening ceremony of the ECO-CAR Centre at the University of Jordan
- Under the patronage of His Excellency the President of the University of Jordan.
- Dissemination of the project

Event Main Results and Achievements

- A brief of the project and the center was presented and a description of each of the equipment.
- The staff members and students became familiar with ECO-CAR Lab equipment that will be used in teaching and training of the vocational training diploma.



WP5: DEVELOPING ECO-CAR PROFESSIONAL DIPLOMA

Duration: M25 to M30

Lead University: BME

Co-Lead University: TH-OWL, RWTH Aachen, UNIVAQ

ECO-CAR WORKSHOP TO ENHANCE HAKAMA HYBRID VEHICLE VOCATIONAL DEGREE

17 of May 2023

Conducted by ECO-CAR project with the support of Jaguar Landrover at HTU for Hakama training center students (HEV program) was a highly informative and engaging session.

Event Main Objective

- Management and communication skills training at HTU campus
- Car maintenance (suspension system & safety in EV & HEV) at Jaguar Land Rover
- Electrical & Electronics Systems in Electric Vehicles at HTU campus.

Event Main Results and Achievements

- The workshop explored the latest technologies and innovations in the field of hybrid and electric vehicles through interactive discussions and hands-on activities.
- The workshop was well received by the Hakama training center students and succeeded in creating a sense of awareness and responsibility towards e-mobility and sustainability.



WP5: DEVELOPING ECO-CAR PROFESSIONAL DIPLOMA

Duration: M25 to M30

Lead University: BME

Co-Lead University: TH-OWL, RWTH Aachen, UNIVAQ

ECO-CAR WORKSHOP TO ENHANCE HAKAMA HYBRID VEHICLE VOCATIONAL DEGREE

14 of June 2023

Conducted by ECO-CAR project with the support of KIA as HTU partner for Hakama training center students (HEV program)

Event Main Objective

- Safety in EV (Equipment and procedure).
- The working principle of a hybrid and electric vehicle system.
- Major components of hybrid and electric vehicles.
- Principle of operation of the electric car charging system.
- Electric car chargers (types and principle of operation).

Event Main Results and Achievements

- The workshop explored the latest technologies and innovations in the field of hybrid and electric vehicles through interactive discussions and hands-on activities.
- The workshop was well received by the Hakama training center students and succeeded in creating a sense of awareness and responsibility towards e-mobility and sustainability.



WP6: QUALITY AND IMPACT EVALUATION

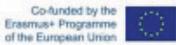
Duration: M25 to M30

Lead University: UD

Co-Lead University: TTU, ZUJ, BME

WP Achievements

- Online evaluation link for all meetings, workshops and they were circulated to partners and participants after each event.
- Reports of each of these meetings were prepared by the work package leader.
- External evaluation in April for 24 months



Thursday, May 4th, 2023
14:00 – 16:00

13:50-14:00	Registration
14:00 - 14:05	Welcoming Speech, by: Prof. Ahmed Al-Salaymeh, General Project Coordinator at the University of Jordan. Work Packages Discussion in the Framework of EE Second Report Moderator of the sessions Eng. Dania Sreihin
14:05-14:10	Main Points to Discuss
14:10 - 14:20	Presented by: Eng. Dania Sreihin & Ms. Sandra Marcos (EE) WP1: Establishing university-enterprise cooperation plan by Prof. Fahmi Abu Al-Rub & Eng. Salaheddin Abuyahya, JUST
14:20 - 14:30	WP2: Baseline Study Plan by Dr. Mohammad Bani Khaled & Dr. Hanan Saleet, ASU
14:30 - 14:40	WP3: Capacity Building Plan by Dr. Clio Vossou, NTUA
14:40 - 14:50	WP4: Establishment of EV/HEV labs plan by Prof. Rebhi Damseh & Dr. Mamoun Smadi, BAU
14:50 - 15:00	WP5: Developing ECO-CAR Professional Diploma Plan by Dr. Máté Zöldy, BME
15:00 - 15:10	WP6: Quality and Impact Evaluation Plan by Dr. Ivan Dyukarev, UD
15:10 - 15:20	WP7: Dissemination and Sustainability Plan by: Prof. Tarek Tutunji & Eng. Yousef Okour, HTU
15:20 - 15:30	WP8: Project Management Plan by Prof. Ahmed Al-Salaymeh, Hanan Hasan & Eng. Dania Sreihin UJ
15:30-15:50	Comments and Discussion
15:50 - 16:00	Wrap up & End of the meeting

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WP7:

DISSEMINATION AND SUSTAINABILITY/ INFO DAY

Duration: M25 to M30

Lead University: Al-Hussein bin Abdullah II Technical University (HTU)

Co-Lead University: MU, ZUJ, TH-OWL

MU-INFO_DAY

28 of March 2023

Within the activities of the Scientific Day at the Faculty of Engineering at Mutah University,

Event Main Objective

- Disseminate an overview of ECO-CAR Project.
- Market the ECO-CAR program, Vocational diploma.
- Distribute of Promotional Materials for ECO-CAR project among staff members and students.

Event Main Results and Achievements

- Provided ECO-CAR information to participants.
- Attracted students' attention.
- Collected contact data of interested students.



WP7:

DISSEMINATION AND SUSTAINABILITY/ INFO DAY

Duration: M25 to M30

Lead University: Al-Hussein bin Abdullah II Technical University (HTU)

Co-Lead University: MU, ZUJ, TH-OWL

ECO-CAR SUSTAINABILITY WORKSHOP BY HTU

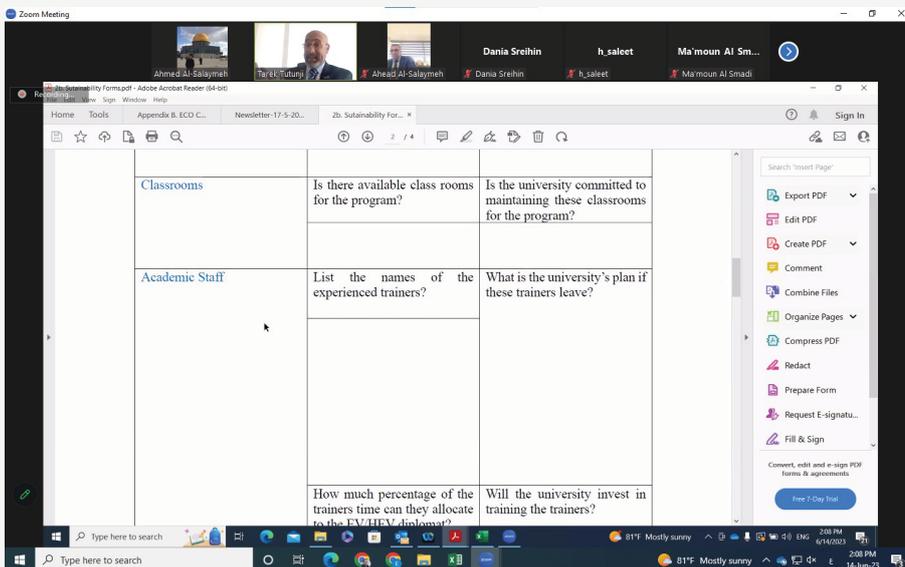
14 of June 2023

Event Main Objective

Conducted a financial sustainability workshop for Jordanian partners to ensure the sustainability of diplomas at each university.

Event Main Results and Achievements

Shared with the partners an Excel sheet "Financial Sustainability for training and diplomas" and how to use it to guarantee good income from the diplomas.





ONLINE MEETINGS

15th Online Management Meeting
16th Online Management Meeting

THE 15TH ONLINE MEETING ESTABLISHMENT OF MANAGEMENT AND OPERATIONAL STRUCTURES AND RUNNING THE PROJECT

04 of May 2023

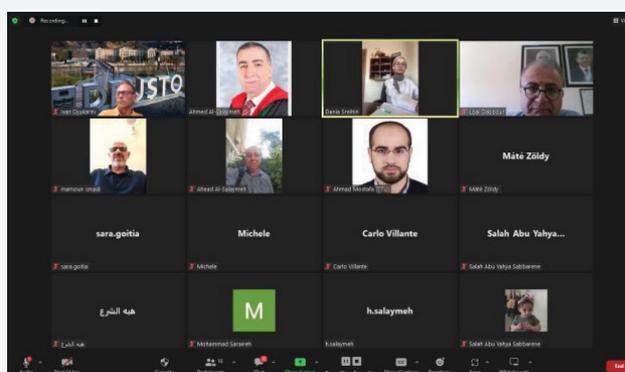
Event Main Objective

The main aim is to follow up with the implementation of ECO-CAR diplomas at each of the Jordanian universities and other follow-ups, with the overall planning and monitoring of the work of the consortium.

Event Main Results and Achievements

- Underlined the achievements of each university up-to-date and what is expected from each university to be achieved in the upcoming months.
- Reviewed the diplomas status in each of the Jordanian universities.
- In-house training from staff who attended the TOT in AACHEN and BME in order to transfer the knowledge to other academic staff.
- Memorandum of Understanding (MoU) in order to be signed with different stakeholders in cooperation with each institution.

Stake Holder #1	Stake Holder #2	Stake Holder #3	Stake Holder #4	Stake Holder #5	Stake Holder #6	Stake Holder #7	Stake Holder #8
Lead Researcher for Fuel Cell Research Center (FCRC)	Stakeholder for Hydrogen and Fuel Cells Research Center (FCRC)	Stakeholder for Hydrogen and Fuel Cells Research Center (FCRC)	Stakeholder for Hydrogen and Fuel Cells Research Center (FCRC)	Stakeholder for Hydrogen and Fuel Cells Research Center (FCRC)	Stakeholder for Hydrogen and Fuel Cells Research Center (FCRC)	Stakeholder for Hydrogen and Fuel Cells Research Center (FCRC)	Stakeholder for Hydrogen and Fuel Cells Research Center (FCRC)
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THE 16TH ONLINE MEETING

ESTABLISHMENT OF MANAGEMENT AND OPERATIONAL STRUCTURES AND RUNNING THE PROJECT

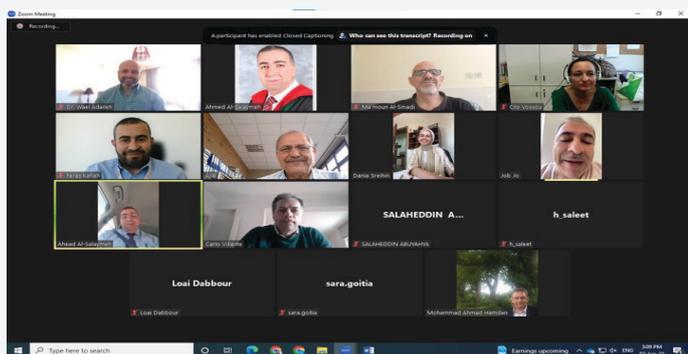
08 of June 2023

Event Main Objective

The main aim is to follow up with the progress of ECO-CAR work packages with each WP leader, alongside addressing additional follow-up points. This includes the comprehensive coordination, planning, and monitoring of the consortium's collective efforts.

Event Main Results and Achievements

- Prepared the upcoming dates of TOT and Students' workshops.
- Scheduled the EU visits to implementation sessions in Jordan.
- Preparation for Upcoming steering committee meeting in AACHEN.
- Set out a workshop for sustainability led by HTU.



Stake Holders Updated March/23

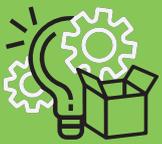
Number of Partners, Institutions and Stakeholders (EURO-CAR)

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Table 1: Number of registered Jordanian partners		Table 2: Number of registered European members in the network	
Partners	Number of members registered	European Partners	Number of members registered
UJ	13	UNIVAQ	2
JUST	12	UPJ	3
FEU	10	NEUA	5
MCU	9	LITPE (THE-OWL)	2
HTU	9	ROVIEH Aachen	1
ZU	9	Indiposol, Muszaki	1
HAU	8		
ASU	7		
Total	78	Total	14

ECO-CAR Project # ERASUS-DP-1-2020-1-JO-EPPKA2-CBHE-JP





STEERING COMMITTEE AND TECHNICAL AND SCIENTIFIC COMMITTEE MEETINGS

4th Steering Committee and Technical and Scientific Committee Meeting

ECO-CAR 4TH STEERING COMMITTEE (STC) AND SCIENTIFIC COMMITTEE MEETING

15 of March 2023

Event Main Objectives:

- Clarify and work out the detailed plan of the project implementation.
- Engage participants in interactive discussions of their plans for advancing the project implementation.
- Achieve continuous efficient running and progress of the ECO-CAR project.

Event Main Results and Achievements

- Next staff training will take place in TH-OWL in Germany.
- Start preparing the 2nd research paper based on the outcomes of ECO-CAR sustainability plan.
- Start preparing for the Student training at EU partners.
- Start preparing for the EU visits to Jordan.
- Conduct a periodical project performance evaluation





UPCOMING MEETINGS

STEERING COMMITTEE MEETING IN ACHEN

5 Sep. to 6 Sep.

ECO-CAR STAFF TRAINING WORKSHOP –

UNIVAQ UNIVERSITY 11 Sep – 15 Sep

ECO-CAR STUDENTS TRAINING WORKSHOP –

UNIVAQ UNIVERSITY 11 Sep – 22 Sep

ECO-CAR STAFF TRAINING WORKSHOP –

NTUA UNIVERSITY 25 Sep – 29 Sep.



ECO-CAR STUDENTS TRAINING WORKSHOP –

BME UNIVERSITY 16 Oct to 27 Oct

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