



ECO-CAR NEWSLETTER

1st Issue - November 30, 2021

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 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 in 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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WORK PACKAGES

- WP 1: Establishing university- enterprise cooperation**
- WP 2: Baseline Study**
- WP 3: Capacity Building**
- WP 5: Developing ECO-CAR Professional Diploma**
- WP 6: Quality and Impact Evaluation**
- WP 7: Dissemination and Sustainability**
- WP 8: Project Management**

WP1: ESTABLISHING UNIVERSITY- ENTERPRISE COOPERATION

Duration: M1 to M6

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

Co-Lead University: Mutah University (MU), Al-Hussein bin Abdullah II Technical University (HTU) & Universidad de la Iglesia de Deusto Entidad Religiosa (UD)

This work package aims to establish strong and lasting cooperation between universities, enterprises, and vocational training centers. These type of cooperation will help universities better understand what the expertise and qualifications for their students in HEV/EV issues should be in order to succeed and get hired once graduating. Another goal is to understand what steps and tools to be implemented in order to further advance the adoption of clean technologies in Jordan.

WP Achievements

- Network members were identified from different locations
- The network members were provided with the needed information about the project aims and activities
- A registration form has been prepared
- Creating EV/HEV Network of Community Support professionals, enterprises, vocational training centers, and organizations, it includes 54 members form Jordan and 7 EU members.
- Two networking workshops were organized to exchange information
- Collaboration agreement has been signed with the Vocational Training Center (VTC)



WP2: BASELINE STUDY

Duration: M1 to M6

Lead University: Applied Science University (ASU)

Co-Lead University: Tafila Technical University (TTU), Al-Balqa Applied University (BAU) & Universita Degli Studi Dell'Aquila (UNIVAQ)

This WP aims to prepare and publish a guiding report that summarizes the list of needed competencies in the market in the field of EV/HEV in Jordan, the potential clean technologies in the field of transportation and their regulations. The report has been prepared based on previous studies and a questionnaire that has been prepared by the WP leader.

A workshop with enterprises will be conducted to review the reports and agree on the final list of courses for the professional diploma.

WP Achievements

- WP leader and co-leaders designed five surveys in coordination with WP5 leader and the partners circulated the surveys to the target groups
- Leader and co-leaders analyzed the responses under the leader supervision
- A baseline study report has been prepared

LET'S SEE TOGETHER SOME RESULTS OF THE BASELINE STUDY:

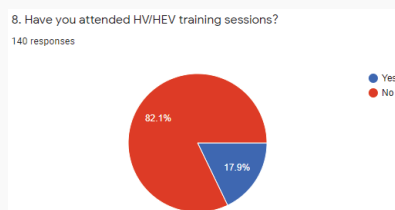


Figure 3: Percentage of Faculty that had Attended Specialized Training Sessions

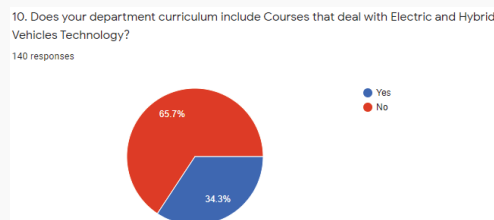


Figure 4: Faculty Opinion About Course Content Related to EV/HEV

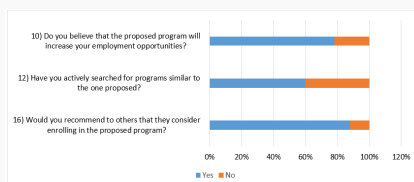
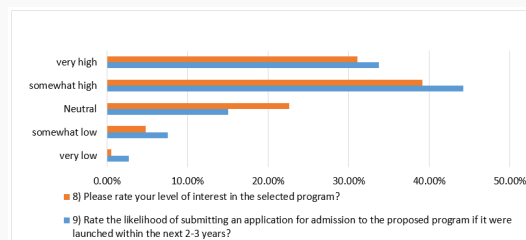
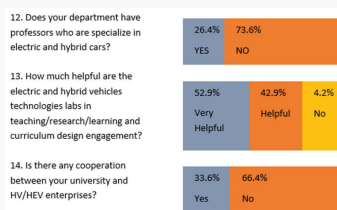


Figure 5: Students Interest in the Proposed Programs



WP 3:

CAPACITY BUILDING

May 19, 2021

Duration: M5 to M33

Lead University: National Technical University of Athens (NTUA)

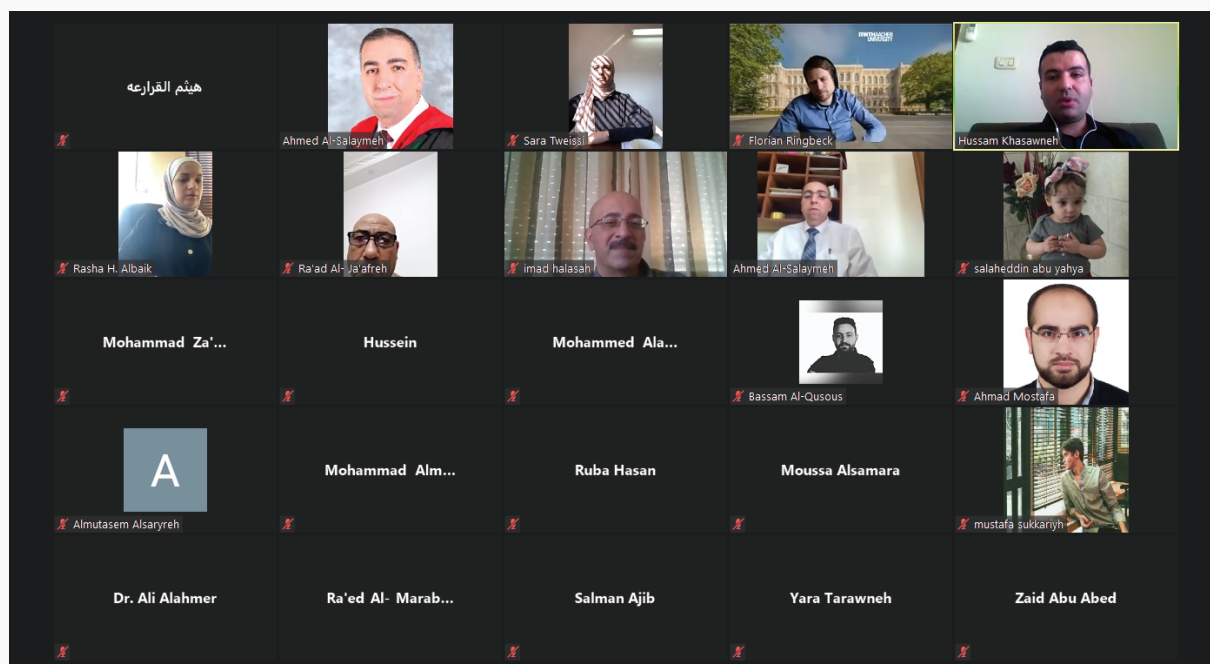
Co-Lead University: Applied Science University (ASU), Rheinisch-Westfaelische Technische Hochschule Aachen (RWTH Aachen) & Budapesti Muszaki es Gazdasagtudomanyi Egyetem (BME)

WP3 aims to build the capacities of professors who will teach the diploma in partner universities on different topics of EV/HEV, modern teaching methodologies, and how to actively collaborate with enterprises. Also; a group of students will have the opportunity to attend a two-week workshop in one of the participating European Countries. The students will be selected during the piloting phase of the diploma and courses integration in existing programs. Selection will be based on a prepared selection criterion.

The capacity plan has been prepared and to be checked by the scientific and quality committees. In addition, workshops for professors will be conducted within the first and second year before piloting the diploma.

WP Achievements

- A capacity building plan has been prepared
- WP leader has set selection criteria for the workshops
- Scheduling workshop dates and selecting the topics to be matching the hosting university expertise
- An online workshop has been conducted by RWTH Aachen University that entitled "Introduction to Batteries" with 54 participants.



INTRODUCTION TO BATTERIES

June 23, 2021

The workshop has given an overview of ECO-CAR project, its objectives and introduced the partners working with the project.

The workshop has highlighted one of the main parts in EV/HEV, which are batteries. The discussed topics where: Batteries Aging and Second Life, and Batteries Fundamentals and Applications. This workshop conducted in-cooperation between The University of Jordan and RWTH-Aachen in Germany.

The workshop was attended by more than fifty local and international stakeholders. And it is published on ECO-CAR YouTube channel.

WP 4: ESTABLISHMENT OF EV/HEV LABS

Duration: M6 to M21
Lead University: Al-Balqa Applied University (BAU)

Co-Lead University: The University of Jordan (UJ), Jordan University of Science and Technology (JUST) & National Technical University of Athens (NTUA)

The aim of this work package is to establish 8 EV/HEV labs at each partner university to support the diploma teaching for students. The aim of this work package is to set up the needed scientific labs and smart classrooms to be used by the students during their study.

The established laboratories will bring on the following activities:

- 1) Assisting teaching of ECO-CAR diploma Students;
- 2) Research, in collaboration with the other faculties and/or industry;
- 3) Vocational training for external experts
- 4) External services: advices for industries and final users

WP Achievements

- A list of the needed equipment for ECO-CAR centers has been prepared
- Central Tender is published
- Field Visit to ASU Hybrid Training Center



WP 5: DEVELOPING ECO-CAR PROFESSIONAL DIPLOMA

Duration: M4 to M34

Lead University: Budapesti Muszaki es Gazdasagtudomanyi Egyetem (BME)

Co-Lead University: The University of Jordan (UJ), Technische Hochschule Ostwestfalen-LIPPE (TH-OWL), Rheinisch-Westfaelische Technische Hochschule Aachen (RWTH Aachen) & Universita Degli Studi Dell'aquila (UNIVAQ)

This WP aims to develop and pilot ECO-CAR Professional Diploma in each partner university in Jordan; the activities will start by developing the study plan with courses descriptions to be submitted for accreditation purposes. The accreditation will be done according to the national accreditation system and the specific instruction in each university. The diploma will consist of 8 courses in (24 Credit Hours= 40 ECTS) that will be implemented in each participating university. The courses will be developed by establishing committees consisting from representatives from European universities, partner universities, and Enterprises. During the period of preparing the study plan, the workshop with enterprises in WP2 will be conducted with enterprises to get their feedback on the study plan and courses list.

WP Achievements

- 3 Focus groups were established for each diploma: Professional, Community College, and Vocational diploma to study, select, and develop the courses.
- UJ starts in accreditation process
- A first selection of courses established by each focus group based on WP2 results

WP 6: QUALITY AND IMPACT EVALUATION

Duration: M1 to M36

Lead University: Universidad de la Iglesia de Deusto Entidad Religiosa (UD)

Co-Lead University: Tafila Technical University (TTU), Al-Zaytoonah University of Jordan (ZUJ) & Budapesti Muszaki es Gazdasagtudomanyi Egyetem (BME)

A Quality Assurance and Evaluation Plan will be elaborated by the Quality Committee, that has been established during the Kick-Off meeting. The plan will investigate the quality standards of the different partner universities and standardize them in a shared approach. The detailed plan will be a reference to manage the project effectively and to assess the performance. Quality control for all work packages will be applied. Evaluation surveys will be developed within this work package to guarantee a high level of quality at the different universities.

WP Achievements

- Quality committee was formed during the kick off meeting
- Quality assurance plan was prepared
- Online evaluation links for all meetings, workshops and they were circulated to partners and participants after each event
- Quality assurance tools were prepared



WP 7:

DISSEMINATION AND SUSTAINABILITY

Duration: M1 to M36

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

Co-Lead University: Mutah University (MU), Al-Zaytoonah University of Jordan (ZUJ) & Technische Hochschule Ostwestfalen-LIPPE (TH-OWL)

The aim of this work package is to effectively disseminate information of the activities of the project and to communicate its outcomes to multiple audience including the media and the public. A variety of dissemination activities will be conducted that include webpage, social networks, courses video presentation, electronic and printed material, dissemination seminars (2 in each partner university), participation in events to promote the diploma.

WP Achievements

- Dissemination committee was formed during the kick off meeting
- Project website is designed, hosted and managed by University of Jordan
- Facebook page, YouTube channel, and LinkedIn was created and managed by The University of Jordan
- Promotional and marketing Materials were designed by Work Package leader
- Dissemination plan and Sustainability and Networking plan have been prepared



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

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

TITLE: Erasmus+ Programme (Capacity-Building projects in the field of Higher Education (E-CBHE))
GRANT HOLDER: The University of Jordan
PROJECT NUMBER: 618509-EPP-1-2020-1-JO-EPPKA2-CBHE-JP

64% of the stakeholders confirm that there is a need in their organization for personnel with the knowledge, training and skills acquired by those who complete a degree in the proposed program.

88% of the stakeholders mentioned that they will hire the program graduates when there is a vacancy.

79% of the surveyed stakeholders mentioned that the graduates will add value to the company.

76% of the stakeholders assumed that this program will be able to produce the right kind of graduates whom are needed by the market.

77% of the stakeholders would recommend the program for their employees.

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

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 ECO-CAR Project

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

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WP 8:

PROJECT MANAGEMENT

Duration: M1 to M36

Lead University: The University of Jordan (UJ)

To ensure an accurate and effective management on a daily basis, a project management team, responsible for financial, operational and day-to-day management and keeping track records of all project activities.

WP Achievements

- A Steering Committee (SC) was established during the kick-off meeting
- A Technical and Scientific Committee (TSC) was established during the kick-off meeting
- 4 Management Meetings were conducted during the first 6 months
- Regular communication is conducting by e-mail and shared electronic database
- Progress report is collected from each WP leader





KICK OFF MEETING

KICK OFF MEETING

A kick off meeting was organized online via ZOOM platform in two parts; on 22nd January 2021 and 17th of February 2021, to launch the project 'ECO-CAR' (Vocational Training Diploma on Electrical and Hybrid Vehicles).

The project is funded with the support of the European Commission within the Erasmus+ programme. The meeting was attended by the Jordanian and European representatives of the project's partners and National Erasmus+ office represented by Prof. Ahmad Abu-El-Haija, as well as many professors and lecturers in UJ.

During the Kick off meeting Prof. Ahmed Al-Salaymeh (UJ, General Coordinator) declared that the programme will be implemented in partnership with thirteen universities from Germany, Greece, Hungary, Italy, Spain, and Jordan Universities. Furthermore, Prof. Al-Salaymeh presented ECO-CAR aims, vision and describe each Work package for implementing the project.

Each partner has presented a short presentation about his university: organization, staff, and their role in the project. In addition, Each WP leader presented their work package related with its tasks and scheduling.

At the end of the meeting, the project committees were assigned, which are:

- Steering Committee
- Scientific Committee
- Quality Committee
- Dissemination Committee





MANAGEMENT MEETINGS

MANAGEMENT MEETING 12th of March

Main focus points were:

- Starting the registration process for the stakeholders,
- Starting the dissemination of the surveys for the baseline study,
- Collecting expertise of EU partners and scientific background from partner countries,
- Preparing needed list of equipment for partners and its specifications,
- Start design (Roll up, brochure, E-newsletter and promotional).

MANAGEMENT MEETING 9th of April

Main focus points were:

- Preparing for a networking workshop,
- Cooperation from JO partners to collect the responses,
- Determine the topics of the online workshops,
- Schedule a visit at ASU,
- Start announce about Hiring External Evaluator,
- Prepare design of dissemination and promotional materials,

MANAGEMENT MEETING

A 2-hours online meeting was conducted on 26th of May with the project partners. Each WP leader presented the progress of the work package and its action plan.

Each WP leader listed with the other partners the upcoming tasks under the presented WP.

The main focus points were:

- Schedule the discussion 2nd session of the networking workshop
- Review the 1st draft of survey analysis report
- Preparing for the tendering process to purchase equipment for JO partners
- Prepare a detailed work plan to develop diploma study plan and course description based on baseline study deliverables
- Disseminate ECO-CAR info through partners official websites





WORKSHOPS

FIRST NETWORKING WORKSHOP

May 19, 2021

The workshop started with a welcome speech from the project coordinator, Prof. Ahmed Al-Salaymeh from The University of Jordan.

In this workshop, which included more than fifty participants, a brief overview of the project was presented by the leader of WP1 Jordan University of Science & Technology (JUST) and the Co-leader Mutah University (MU), where the main objective of the project and the benefits it brings to the stakeholders or to the educational institutions in Jordan alike.

In addition, an overview of the programs offered in Jordanian universities related to the project was given by Applied Sciences University (ASU) as it is the leader of WP2 concerned with the proposed programs.

The leader of WP3 concerned with studying the equipment to be purchased for laboratories, Al-Balqa Applied University (ABU), gave an overview to the participants about the equipment to be purchased to equip the laboratories for teaching and training purposes.

After that, a dialogue began with members of the network to present the problems faced by this sector in Jordan. The workshop was concluded with a closing speech by Dr. Ahmed Al-Salaymeh.

SECOND NETWORKING WORKSHOP

Jun 8, 2021

The workshop started with a welcome speech from the project coordinator, Prof. Ahmed Al-Salaymeh from The University of Jordan.

Jordan University of Science & Technology and Mutah University (leaders and co-leaders of WP1) gave an overview summary of the first workshop.

After that, the dialogue was completed with the members of the network to present the problems related to the project and ways to solve these problems.

This dialogue, in which a large number of members of the network participated, and which lasted for more than an hour and a half contributed to understanding the problems of the local market with regard to HEV and EV cars from various aspects.

This workshop concluded that the network members must actively and constructively participate in order to achieve the desired goals of this project.

Prof. Ahmed Al-Salaymeh concluded the workshop with a closing speech in which he expressed his thanks to the network members and participants for contributing to the success of this workshop.





PHYSICAL MEETINGS

STEERING COMMITTEE MEETING FOR LOCAL PARTNERS

The University of Jordan held a steering committee meeting on 24th of June 2021, as this meeting was the first local Jordanian meeting –face to face- .

The main objectives of the meeting were to meet the local partners, follow up with the WPs progress, and conduct a workshop to prepare the courses study plan for the diploma. Prof. Suhail Kiwan and Prof. Ahmed Al-Salaymeh have organized the main ideas regarding the courses preparation with the audience. As a result, 3 main diplomas were created depending on the targeted groups: Professional Diploma, Vocational Diploma, and Community College Diploma.



FIELD MONITORING VISIT BY NATIONAL ERASMUS+ OFFICE- JORDAN

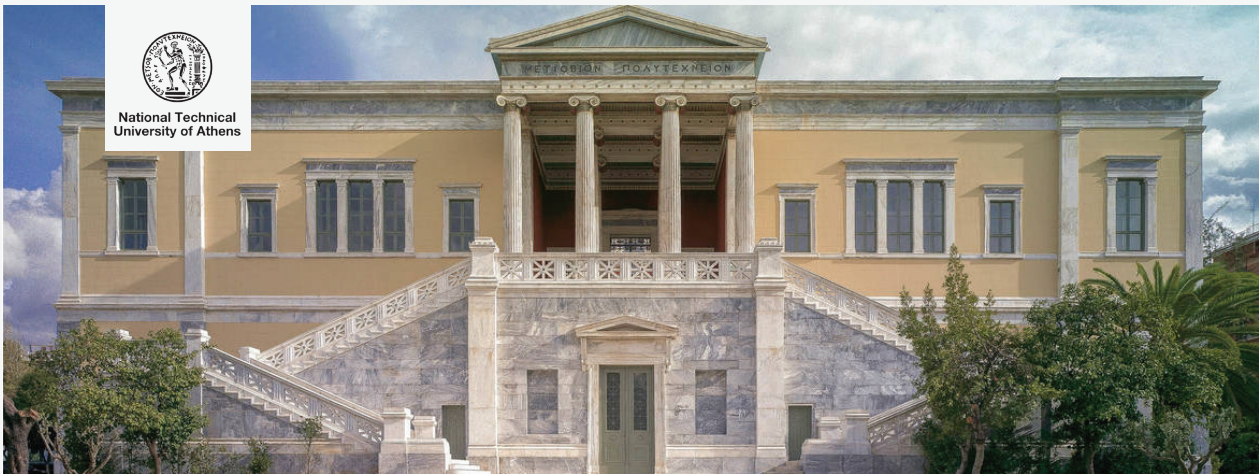
National Erasmus+ office at Jordan has conducted the 1st monitoring visit “Preventive Visit” to ECO-CAR project at Mutah University, Al-Karak, Jordan. During the visit, Prof. Al-Salaymeh has presented the overall plan of the project and the achievements completed so far. The project coordinator and partners have presented how the project is expected to have significant impact on students, staff, and partner universities. In addition, the project will provide students with important skills in the field of EV/HEV for labor market and improve the quality of education. It will also improve the capacity of partner universities by establishing the Diplomas and EV/HEV labs.





UPCOMING EVENT

The Second Steering Committee meeting will take place at Athens at our partner National Technical University of Athens in February 2022. The meeting will be held to discuss and follow-up the project deliverables. Also, special session will be conducted for ECO-CAR Diploma Work package and taking decisions about the activities to be implemented as well as on the Action as a whole.



ACHIEVEMENTS

Project partners conducted Baseline case study in order to identify the necessary competencies in the field of Electrical and Hybrid Vehicles in Jordan. 5 Surveys were distributed to students, academic staff members, and stakeholders and final report was prepared. EV/HEV Network was created for enterprises, vocational training centers, and organizations involved in the field. It includes 54 members from Jordan and 7 EU members.

Two Networking workshops were held online, in addition to a physical workshop with local partners in which three focus groups were created for curriculum development. Developing capacity building plan is in progress. Workshops and study visits are planned in 2021 and 2022. An online workshop entitled "Introduction to Batteries" was organized and more workshops are scheduled.

Equipment list was identified and tendering process started. Equipment will be purchased in a centralized tender for all partners. Eight EV/HEV centers will be established at partner universities in Jordan. Each partner university will establish a diploma and update already existing engineering courses and integrate them within the curricula.

