

# Newsletter

## No. 2

TRIALS stands for Youth for sustainable mobility and inclusion. Funded by EIT Urban Mobility, TRIALS aims to foster entrepreneurship and innovation capacity which will contribute to an advanced education curricula and support the young generation to further develop their skills in the field of the electro mobility. The project is being implemented in Bulgaria by Cleantech Bulgaria and in Malta by Malta College of Arts, Science and Technology.

*Dear Reader,*

*Welcome to the second edition of the TRIALS project newsletter!*

*A lot has happened since we issued our **Newsletter No.1** and we are excited to share with you information about our activities and community. We hope you find this edition informative and engaging.*

## Needs assessment- Gaps and needs in the electro mobility sector

The project consortium conducted an online survey to assess skill gaps in the field of electro mobility 'Gaps and needs in the electro mobility sector'. In total, the survey was distributed to more than 1000 stakeholders representing the industry, NGOs, VTCs, HEIs, Higher Professional Schools etc.

Our respondents in Malta and Bulgaria consider as most important skills needed in the electro-mobility sector:

- ✓ Technical knowledge and expertise
- ✓ Adaptability and problem-solving

and noted that additional knowledge in existing academic courses is needed on

-  Vehicle service
-  Maintenance
-  Battery technology
-  Safety and troubleshooting

*Icons by Ulcons*

In addition, the mapping of existing opportunities we developed, outlines our research on the available courses and educational programs, related to urban and electro mobility, including the EIT UM Academy programs and courses.

# Content Development - TRAILS training model

Following the needs assessment results the partners developed a training model containing three modules respectively:

- **Module 1 - Technical skills** encompasses a range of sub-modules, including Battery Technology, Safety and Troubleshooting, Electric Vehicle Powertrain Systems, Charging Infrastructure and Smart Grid Integration, and Vehicle-to-Vehicle (V2V) and Vehicle-to-Infrastructure (V2I) Communication
- **Module 2 - Entrepreneurship and Further Opportunities** with its submodule on EIT UM Academy Programmes and Courses. The Entrepreneurial Skills module focuses on fostering entrepreneurship and innovation capacity among young practitioners in the electric vehicle industry. Participants are exposed to topics such as introduction to entrepreneurship, identifying business opportunities, business planning and strategy, financing and funding, legal and regulatory considerations, marketing, and sales strategies, building networks and collaboration, and business sustainability and scaling.
- **Module 3 - Legislation and Regulatory Compliance** in Electro-mobility. This module provides an in-depth understanding of the legislative and regulatory frameworks governing the electric vehicle industry. Participants explore European legislation and directives, international standards and regulations, emissions standards, and environmental regulations, charging infrastructure regulations, privacy and data protection regulations, future regulatory trends, and emerging policies.

Each module is designed to address specific aspects of the electro-mobility industry and provides learners and readers with an understanding of the subject matter. The aim of the TRAILS Training Model is to provide a unified framework for educational institutions, covering programmes related to the mobility sector:

engineering, mechanics, machine automation, vehicle design and development, ICT, etc., with which to support lecturers in delivering contemporary, relevant and practical courses to their students. The model is designed for students, higher education institutions, professional schools, vocational training centers, and industry representatives, and aims to support all stakeholders needs of additional skills and knowledge of electromobility.

## Piloting educational sessions in Malta and Bulgaria

To test and improve the developed content, each partner organized piloting sessions with educators, students and round tables with industry representatives, which tookplace in September and November.

In Malta TRAILS organized the education series in close collaboration with MCAST Institute of Engineering and Transport benefiting from the expertise of Ing. Longino Dingli and Senior Lecturer Mr. Andy Bugeja. The piloting activities started in September with the educators session and followed by the session with students in October and round table with the industry practitioners in November.

Both educators and students were introduced to the TRAILS training model methodology delving into the world of current electro-mobility trends and future education. The sessions were filled with a collaborative energy, shared experiences, valuable ideas fostering a supportive community of learning and providing at the same time inputs for improvement of the content developed.

In Bulgaria, for the piloting with educators, Cleantech Bulgaria organized a hybrid event to facilitate the participation of educators from all over the country. Representatives of six Bulgarian universities with programs such as Engineering, Electronics and Mechanics, Economy of Transport, and Electromobility took part in the piloting. Then the piloting with students was organized with students from the University of National and World Economy - Department "Economics of Transport and Energy".



## Insights and suggestions from educators

*Although I am new to EVs and their technology, I have chosen to attend to build experience and be informed from more competent professionals, while finally help me form an opinion. I come from the Electrical and Electronics Engineering background and can appreciate that the EV combines many different subjects into one application. - MCAST Educator, Malta*

*The content should be open to most citizens, maybe agreement with local councils. Should not be limited to people involved in industry only. - MCAST Educator, Malta*

*Practical sessions on electrical cars will enrich and complement the content. - MCAST Educator, Malta*

*In general, the content is very useful, but it is a lot to fit in one course. The third module is very valuable, since information on Legislation and Regulatory Compliance in the electro mobility sector is not readily compiled at one place. - Educator from the Technical University of Sofia, Bulgaria*

*The e-courses which are offered by EIT Urban Mobility Academy and that are included in the new educational opportunities sub-module of the Training model, look very engaging both for educators and students. - Educator from Trakia University, Bulgaria*



TRIALS Piloting session with educators Malta

## Insights and suggestions from students

*I gained knowledge about the electric vehicle safety systems and an idea of how things work. - MCAST Student Engineering and Transport Institute*

*I learnt the importance of charging a battery and the safety and hazards you need to take care of electric batteries. - MCAST Student Engineering and Transport Institute*

*This was good information about electric cars and the future of automobility. - MCAST Student Engineering and Transport Institute*

*The presentation showed us that electric vehicles are the future, the videos on UMX are very interesting and open new possibilities to learn of good European examples - Student for UNWE, Bulgaria*

*We are having some courses that relate to electric mobility, but it will be valuable to learn more about how infrastructure can improve in Bulgaria - Student for UNWE, Bulgaria*



TRIALS Piloting session with students Bulgaria

## Round table with practitioners



The round table with industry experts in Malta enjoyed the participation of key automotive stakeholders in the country like Debbono group, Mizzi motors, MotorsINC and relevant public institutions to the automotive sector. The participation and discussions were enriched by MCAST academics and students of the Engineering and Transport Institute creating an atmosphere of enhanced collaboration and openness to exchange resources and knowledge. The round table gathered at last main stakeholders and groups of interest in creating a platform for enhanced collaboration.

The round table in Bulgaria involved participants from the Sofia Development Association, the Sofia Urban Mobility center, Sofia University, Industrial Cluster of Electromobiles, Bullcharge Ltd., and other relevant stakeholders. Discussions about skills in the automotive sector were discussed in detail, including how students who are employed in the automotive industry are a valuable source of feedback on the state of available education in electromobility related topics, available in Bulgaria.



*TRIALS Piloting session with industry representatives Malta*

### Insights and suggestions from industry representatives

*I recommend that a very basic electrical course be given prior to this one. The basic course will consist of topics like atomic numbers of different materials, movement of electrons, magnetism, measuring current-voltage-resistance in Parallel and Series circuit, Difference between AC/DC, etc. - Industry representative, Malta*

*The government must issue a directive that all people taking courses on vehicle electrification must take a certification that complies with workshop health and safety requirements and safe work practices. - Industry representative, Malta*

*More practical activities need to be introduced in the curriculum - students need the benefit of hands-on experience through internships and collaboration with educational institutions. - Industry representative, Bulgaria*

*Skilled workers in the electromobility sector will prove even more valuable in the next years, especially with the unfolding of charging infrastructure, so the TRIALS model will support employees in various sectors, including experts in municipal urban mobility centers - Representative of the Sofia Urban Mobility center.*

*TRIALS Piloting session with students Malta*

# The way forward

## New educational opportunities for RIS students:

Finally, we would like to share with our readers information on another educational opportunity for students from RIS countries. Cleantech Bulgaria and MCAST, along with our partner Project Aegle Foundation (PAF) are developing a winter school on the topic of urban mobility, called EXCEL. **EXCEL Winter School**, co-funded by EIT Urban Mobility, invites bachelor students who are at least in their second year of education to a transformative learning experience. The online preparatory week kicks off in December 2023, followed by a study visit in Gozo, Malta between 12th February and 16th February 2024, covering expenses for travel, accommodation, and meals.

Participants dive into innovation and entrepreneurship in urban mobility, collaborating with experts and stakeholders to develop impactful ventures. If you would like to learn more about the EXCEL project, you can visit the dedicated web page of the **EXCEL Winter School**.

The TRAILS Training Model aims to bridge the gap between the current electro-mobility market, and the level of preparedness required by future practitioners. By providing a unified framework for educational institutions, the model supports the needs of students, higher education institutions, professional schools, vocational training centers, and industry representatives.

We do wish for education institutions to find the model useful and adoptable to their curricula. While the industry and practitioners find in it a learning and upskilling tool for their workforce.

## Contact

Do get in touch with us should you like to receive further information on TRAILS training model by sending an email to: [info@cleantech.bg](mailto:info@cleantech.bg) for Bulgaria and [albana.gerxhi@mcast.edu.mt](mailto:albana.gerxhi@mcast.edu.mt) for Malta.

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