

The partners of this project



SYNTRA WEST is a non-profit training provider in Belgium (Flanders). Syntra West was set up in 1960 and is providing 3,5 million training hours every year for about 55,000 trainees. We are working with 2000 part-time trainers and a staff of 250 persons. We have 6 training campuses. Our offer is made up of short- and long term, modularized training sessions, initiation, rush courses broken down into 4 groups: technical training sessions in about 200 professions amongst them training for the bicycle repairer, management training, IT training and specific language courses. Syntra West is experienced in coordinating EU-funded projects with a 4 persons project office team. Syntra West acts as the coordinator of this partnership project.



ETRA is the European trade association for bicycle, moped and motorcycle dealers. ETRA supports national trade associations in the development and the improvement of training for two-wheel dealers and their staff. Some member states offer a well-developed training scheme for bicycle dealers, whereas in other member states training is in a startup phase. Together with different European partners, ETRA works towards a project in which training in these latter countries is developed and/or improved by means of transfer of know-how. Furthermore, ETRA has exhaustive knowledge on electric bicycles resulting from its partnership in the EACI funded Presto project. In PRESTO, ETRA is responsible for the pillar electric bicycles. This includes the publication of a Policy Guide on electric bicycles, which is the basis for dealer training on electric bicycles.



THE INNOVAM GROUP is the leading training and assessment center in the Netherlands for the automotive and two wheeler industry. For more than 60 years Innovam has been the main provider of both technical and non-technical after sales, sales & management and sales product launch training and education programs in the branch. Our main objectives are; Provide knowledge in all possible ways, to employers and employees; Improve craftsmanship and skills by training and a continuous development of companies and show how the newest developments and innovations and create awareness and provide an accurate knowledge base.



Vilnius Jeruzales LMTC is an educational organization specialized in vocational training. The center falls under the jurisdiction of the Ministry of Social Security and Labour. It is a part of the Labour Market training system of Lithuania. The main aim of the center is to provide high quality vocational training services for adult people. Main activities are; Providing vocational training; Providing qualification upgrade courses; Providing courses on work safety.



PRO WORK promote career development for people with a distance to the labour market, both on a national and international level, as far as they require education, coaching and guidance. In these fields Pro Work has built up a broad experience and works from and with an extensive network of experts. Many activities Pro Work are related to competence development and the development of Competence Based Training & Learning. For this purpose Pro Work has, among other things, been involved in the development of a knowledge center and the development of a complete digital competence register with all possible education / courses (formally and sectorally recognized).



CELf is a large vocational college located in Greater Copenhagen on 5 campuses. CELf has around 4,500 students and a staff of 750 persons. Our main educational programs are: VET, Higher Technical Examination Programme (HTX) and Adult Vocational Programs. CELf has a mechanical training department which will be involved in this project. The different departments at CELf are building up their experiences on e-learning, blended learning and digital tools.



EKOLO.CZ has been established in 2008 to promote electric vehicles. The company is designing, manufacturing and bringing to market electric bicycles, fully according newest EPAC standards in the Czech Republic and Slovakia. Ekolo.cz stands for educational and training activities in the clean city mobility.

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The E-Bike project 2011 – 2013

As the electric bike has enormous potential in the European Union, dealers, manufacturers, importers and bicycle repairers play a crucial role in informing people on electric bicycles and persuading them of the advantages of this innovation. Nowadays, there is dissatisfaction amongst e-bike users related to range, performance, weight, price, servicing and repair costs. To avoid this dissatisfaction, the products and their range need to be diversified following the different user categories. Dealers and bike repairers should be able to advise the client on the most appropriate type of e-bike. Customers need to be optimally informed not only on the actual range of their vehicle but also on how to manage their energy use and charging batteries. Consumers should be informed on the characteristics of the vehicles as well as on the related price/quality ratio. Before this project, dealers, importers and bike repairers lack knowledge and expertise to provide the above mentioned service to their (potential) clients.

This partnership project brought 5 countries together (BE, NL, DK, LT, RO) that worked on this issue by providing state-of-the-art training on (e-)bikes for dealers and bike repairers.

E-Bike - Competence Profile

One of the results of the E-Bike partnership project is the development of a competence profile for e-bike mechanics and dealers. A competence profile gives an overview of the necessary skills, knowledge and attitudes for the profession.

The partners developed this competence profile through research and discussion within the partnership. The preliminary profile has also been communicated to LEVA and to the members of ETRA, who had the opportunity to review the profile and give suggestions. The project partners also matched the competence profile to their own training curriculum. This is a deal test to see whether the competence profile is complete on the one hand, and whether the training curriculum is complete on the other hand.

The final qualification profile covers the skills and knowledge required to perform a range of assembly and servicing tasks within the bicycle industry according to safety and general regulations. It consists of a combination of professional, technical and behavioural competences, the so-called hard and soft skills. The professional competences have been subdivided into: assembly, maintenance & repair, analysis & diagnostics, regulations and sales. The generic ones consist of: communication, planning and organisation, teamwork, initiative, self-management and lifelong learning.

The partners are hoping to further develop this competence profile by creating an assessment test in a follow-up Transfer of Innovation project. The created competence profile can be found on <http://projects.syntrawest.be/ebike/default.aspx>

E-Bike - Train The Trainer session 1 INNOVAM

At the 6th and 7th of February 2012 INNOVAM held a train the trainer (TTT) session at INNOVAM's headquarters in Nieuwegein, The Netherlands. The program was as follows:

6/02/2012 - Day 1 (9h-16h) : E-Bike basics

This day started with learning to read an electrical diagram and the interpretation of these diagrams. Also "Ohm's law" was covered as well as the series and parallel connections in accumulator systems and the link and cohesion between potential differences, current and resistance differences. Finally the measuring methods to detect interferences was addressed.

7/02/2012 - Day 2 (9h-16h) : E-Bike advanced

The second day was more dominated by the advanced principles of the E-bike with the interpretation of factory data in comparison to measured variables, the procedures for diagnostics, learning how to handle measuring tools and test appliance of the specific brands, compare essential values and draw conclusions and in conclusion learning to select the parts that apply for repair and replacement of the bikes.

Attending this TTT were participants from all partner countries; Thomas Jæger from CELF (DK), Matthy Briens from ETRA (BE), Dirk Vanneuville, Kurt Godderis, Hans Allaert and Klaas Minne from Syntra West (BE), Aurimas Jančiauskas and Andrius Šipkinas from PO Vilnius Jerusalem Labour Market Training Center (LT) and finally Jan Havlicek and Ludek Barta from Ekolo (CZ). The good news is that a growing group of cyclists choose an electric bike! For the two-wheeler market means that a vital market with technical advances. The bicycle specialists who are familiar with that particular market can stand next to a good sales advice with professional service and repairs. The training session was a success with teachable and interested participants. The TTT session focus was mainly at the practical parts of maintenance, repair and diagnose of the E-Bike. The TTT fulfilled the wishes and expectations of all participants.

E-Bike - Train The Trainer session 2 CELF

At the 14th and 15th of June 2012 CELF held a train the trainer session at CELF's headquarters in Nykøbing Falster, Denmark. The program was as follows:

14/06/2012 - Day 1 (9h-15h) : Basic Electricity

First of all the atomic theory was covered with again "Ohm's law" and the power dissipation was explained. Then there was made a comparison between water and electricity using different examples. Also a link was made between potential difference, current, resistance and power. And it is explained what conductors, insulators and semi-conductors are. Furthermore the series and parallel connections of accumulator systems was explained as well as basics in handling Lithium batteries. Finally the so-called "Motor theory" was covered as f.e. brushed commutator motor, BLDC and PMSM.

15/06/2012 - Day 2 (9h-15h) : E-bike

The second day was started with an explanation of the different types of E-bikes with their advantages and different set-ups. Also the basic electronics was covered as f.e. hall sensor, diodes, thyristor, MOSFET, capacitor etcetera. Then the diagnostics millimetre and scope was explained of the E-bikes. This day ended with the practical measuring of the bikes and troubleshooting to determine which parts should be replaced by replacement.

From all partner countries there were attendees; Arnoud Ouendag and Evert Lans of Innovam (NL), Hans Allaert of Syntra West (BE), Andrius Sipkinas, Virginijus Narusis and Artur Cvetkov of PO Vilnius Jerusalem Labour Market Training Center (LT) and finally Jakub Kratky of Ekolo (CZ). The training focus was mainly at the theoretically parts of electricity and how to disseminate the abstract notions into knowledge and there has been focused on bicycle types and the construction of an electric bike versus a regular bike, regarding weight distribution and the mounting of the battery, motor, controller, angles of the frame etc. Ultimately, a part of the program was dedicated to the handling of Lithium batteries including seemingly "dead batteries" and the possibilities to prolong the lifespan of these. The training session was a success with motivated and engaged participants, there was a constructive dialog which benefitted all partners including the teaching part.



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