



European Platform to promote Mobility and Internationalisation of VET systems in the industrial battery value chain (IBVC)

Project idea(s)

The EU workforce is generally highly qualified. Nevertheless, sufficient specialised battery-related skills along with all the educational segments and the entire Battery Value Chain are still lacking. This leads to current dependence on Asian competence, especially concerning battery design and large-scale manufacturing. Asia's strength lies in a strong educational system already incorporating elements applicable to the battery industry. At the same time, in Europe, skill gaps have been identified between workforce offer and skills needed for high-tech key enabling technologies. The biggest problem lies in professional and vocational education, as it is increasingly difficult for the battery industry to employ staff with the appropriate qualification profiles.

The project's aim is to support regional Vocation educational training (VET) systems to rapidly adapt skills provision to evolving economic and social needs emerging from the energy transition requested by the EU Green Deal.

As a part of the EU Green Deal the European commission aims to reduce emissions from cars by 55% by 2030. By 2030 emissions from new cars should be 0. The commission is also proposing carbon pricing for the aviation sector as well as extending the existing carbon pricing for the maritime sector.

These goals, as well as the EU Green Deal in general, requires initiatives in the field of energy transition and related matters. One prominent factor is electrification and battery development.

The electrification of the European vehicle fleet is already in progress and investments are only increasing. The EBA Academy have stated that new projects along the European battery value chain would create between 3 and 4 milion direct and indirect jobs over the coming years. Providing the right competence and skill for these jobs is perhaps, one of the most important challenges for reaching the goals of the EU Green Deal. Without the right skill supply companies and businesses that invest in battery technology will struggle to develop and produce the solutions needed.

One way of ensuring the required skill supply both in the field of R&D and production is through a European centre of vocational excellence (CoVE). The aim of the CoVE initiatives is to enable VET institutions to rapidly adapt skills provision to evolving economic and social needs, including the digital and green transitions. CoVEs operate in a given local context, being the linchpin of skills ecosystems for innovation, regional



development, and social inclusion, while working with CoVEs in other countries through international collaborative networks.

This project aims to set up a CoVE centred around the battery value chain and a collaborative platform that promotes mobility and internationalisation through mutual learning, technical support and joint initiatives in the field of electrification.

The project is focusing on innovative approaches provided by VET excellent centres to respond to the challenges derived from the energy transition that is needed not just to accelerate economic progress and development, but also to slash emissions that are rapidly warming our planet. The participating VET centres should be comparable in terms of internationalisation strategies and offer a similar number of disciplines and services to the regional stakeholders. They should play a proactive role in support of growth and innovation.

General challenges that the project should give a response to:

- Green and digital transition
- The shortage of sufficient specialised battery-related skills along with all the educational segments and the entire Battery Value Chain.
- the need for re-/ upskilling of existing workforce (especially in automotive industries),
- the need for mobilising the future workforce (e.g., exchange between industry and academia),
- the need for education on cross-cutting skills (e.g., digital skills),
- the need for creating knowledge in large-scale (battery cell) production.
- Innovation at regional level with convergence at EU level.
- Policy stakeholders need to support both industry and academia in order to coordinate the adaptation of educational systems to the upcoming needs.

Specific challenges:

- Long term mobility of apprenticeships in energy in transition disciplines.
- How to combine learning in a local education centre with an international mobility training experience in a foreign country/region.
- How to support teachers/trainers/mentors in the field of the industrial battery value chain
- How to best involve the decision makers at the education centres and in the companies
- how to create interdisciplinary research strongly connected with education through the entire Battery Value Chain.
- lack of equipment and training labs where students would be able to carry out real-life hands-on experiments, in addition to theory studies.

Activities

Teaching & Learning: Providing people with labour market relevant skills including those necessary for the green and digital transitions, in a lifelong learning and inclusive



approach providing learning opportunities to people of all ages and socio-economic backgrounds. Combining offers of initial VET qualifications, with offers of continuing training for upskilling and reskilling (including micro-credentials), that are informed by skills intelligence.

Developing innovative learner-centred teaching and learning methodologies, including interdisciplinary research and value chain-based training to increase the skilled workforce. Providing opportunities for international mobility while fully exploiting digital technologies such as MOOC's, simulators, virtual reality, Artificial intelligence.

Providing higher-level VET programmes, developing flexible pathways, and cooperation mechanisms between VET and higher education institutions.

Investing in the initial and continuing professional development of teachers and trainers, for pedagogical, technical, and in particular digital skills including those necessary for online and distance learning, as well as for the implementation of a quality culture based on defined management systems.

Cooperation and Partnerships: Establishing VET internationalisation and mobility strategies; through mobility within the CoVE teachers and learners can acquire skills throughout the entire battery value chain. Creating and promoting Business-education partnerships that can help strengthen the VET-institutions relevance for the industry. Launching apprenticeship-schemes that can assist in up-skilling and reskilling the existing workforce for positions within the battery value chain.

Governance & Funding: Co-creating local skills ecosystems in different parts of the value chain and through cooperation and mobility of teachers and learners help train an excellent European workforce throughout the industry. Ensuring autonomy, and effective governance at all levels by involving relevant stakeholders such as companies, chambers, professional and sector associations, trade unions, local, regional and national authorities. Existing

Some results:

- Setting up industrial education centres across Europe to fast-track battery production competence and skills, in order to meet the upcoming demand.
- Analyses of VET systems, special focus on internationalisation and governance structures.
- The development of joint educational measures between academia and industry
- Implementation of coordinated training, reskilling, and upskilling programmes in cooperation between VET-institutions, social partners, and the Battery value chain stakeholders.
- Cross-regional education possibilities or introduce specific modules into existing courses, which will motivate students for mobility.
- Capacity building activities and study visits
- European information and monitoring platform (e.g. virtual web-platform) on educational offers and possibilities. Such a platform should monitor the



- knowledge transfer, balancing the interests of researchers and companies and assure that academia, industry, and policy effectively work together
- Online training courses for teacher/trainers/mentors on new teaching pedagogies and tools, guidance, work-based learning, EU tools to support mobility, etc
- Promotion of European VET systems, including innovation and knowledge, outside Europe

What's in it for the VET centre?

- Cooperation with peers
- Cooperation with stakeholders in the region
- Better prepared learners and teachers/trainers
- Wide offer of VET centres in other regions in Europe
- European platform where to get new training material, pedagogies, etc
- International learners
- Cooperation with companies in other regions
- Peer learning

What's in it for the Region?

- Support to set up regional skills ecosystems that will reinforce their VET provision
- Regional development and growth through the provision of skills fitted for new global challenges
- Attraction of international talent in line with demands from regional economic sectors in energy transition
- Learning from other systems/regions

What's in it for the Companies/Employers?

- New competences and skills adapted to their needs
- Cooperation with peers at European level
- Cooperation with other stakeholders operating in the region
- Young international talent
- Support to work based learning practices
- Information on EU programmes and tools
- Forum to share concerns and challenges regarding legal constraints to host apprentices, etc

Funding call(s)

Erasmus+ Centres for Vocational Excellence – pages 224 to 234 in the EN version of the Programme Guide ([available through this link](#))

Project Duration – 4 years

Project EC Grant – 4 million EUR



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