

Results of quality assurance and evaluation of development, work and international cooperation of the 8 COVEs

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Introduction

In the 3LOE project a distinction is made between

- a) quality assurance and evaluation of the development and implementation of all educational measures
- b) Quality assurance and evaluation of the development of Centers of vocational Excellence, collaborations and international cooperation
- c) Quality assurance and evaluation of the Implementation of the project, collaboration in the project consortium and of the result transfers and implementation consulting

Quality assurance and evaluation of educational measures occur in the Work Packages, in which qualifications were developed, tested and implemented (WP 2 to 5). The results are shown in the results of all educational measures.

Quality assurance and evaluation of the development of Centers of vocational Excellence, collaborations and international cooperation occur in Work Package 2 "Development and permanent operation of regional centers of excellence". The concept and results are presented in Result 2.2 Three-level centres of professional excellence "Green Economy for SMEs" and transnational platform - Part C Results and Business Models.

Quality assurance and evaluation of the Implementation of the project, collaboration in the project consortium and of the result transfers and implementation consulting is the subject of the work in Work Package 6 Quality Management. The concept and results are presented in Result 6.2 Result report of all evaluations and assessments.

The results of the quality assurance and evaluation of the development of Centers of vocational Excellence, collaborations and international cooperation are summarised below.

Evaluation results of the establishment, work and transnational cooperation of COVEs

Quality assurance and evaluation of the development, ongoing work and transnational cooperation of the COVEs were carried out through electronic surveys, evaluation of work and detailed interviews with all partners, other regional institutions and companies of each of the eight COVEs. In addition, discussions were held with experts and self-evaluations were carried out by the partners of a COVE. The evaluation concept and the very detailed evaluation results are presented in

- ✓ Result 2.2 Three-level centres of professional excellence "Green Economy for SMEs" and transnational platform: Part C Implementation, Evaluation & Business Models

Implementation reports, evaluation concept and reports as well as business models for the continuation of the centres of vocational excellence are presented in this comprehensive result report.

Results of the international Cooperation

One of the main objectives of the establishment and development of the eight COVEs is the realization of intensive international cooperation between the COVEs. To achieve this goal, various support measures were implemented in the project.

The lead partner has taken on the coordination of international co-operation and ensured the written, electronic and personal exchange of information and experience. Tools for co-operation and information were developed and implemented.

A total of 12 workshops, usually lasting two days, were organized. At the beginning of the project, the workshops had to be held online due to the coronavirus pandemic. At all workshops, a great deal of space was dedicated to getting to know each other personally and exchanging experiences.

To promote cooperation in the centres of vocational excellence and to train the use of all tools and training measures developed in the project, seven Train the Trainer programs were developed, practically tested and evaluated during the project period. After revision and completion of the Train the Trainer programs based on the evaluation results, the programs were transferred to 24 colleges and universities, which will carry out these trainings on an ongoing basis after the end of the project.

- Training program for personnel and center management for the development and ongoing operation of COVE and the promotion of international cooperation.
- Training for consultants & teachers to use tools for information and cooperation and the tool for qualification counselling,
- Training for teachers to conduct dual vocational training and for intensive co-operation with companies.
- Training for teachers for the ongoing development of the needs of the companies and their employees, ensuring fruitful cooperation and to conduct further trainings.
- Training for teachers Basic Digital Skills.
- Training for teachers Advanced Digital Skills.
- Training for university lecturers and SME advisors for the realization of dual Bachelor degree programs, the promotion of innovations and the implementation of R&D projects in SMEs.

According to the evaluation by the project partners, the workshops and especially the train-the-trainer seminars were particularly important and effective for the development and consolidation of intensive international co-operation. As the train-the-trainer programs will continue to be carried out by 24 universities in the future, it is ensured that new employees of the partners and additional institutions will be trained and involved in international cooperation in all regions in the long term.

This support is essential, but even more effective for the development of regional and international cooperation was the simultaneous implementation of joint concrete work.

For the development, testing, evaluation, completion and implementation of the educational and promotional measures of the 3LoE project, nine international working groups were formed by partners from the various COVEs, which carried out the work together, utilizing the preparatory work and experience of the other COVEs and transferring the results to the partners of all 8 COVEs following consultations within the entire project consortium.

1. An international working group of partners from COVE Austria and Germany has developed a tool for vocational and qualification counselling, which has been tested and implemented by all COVEs.

2. An international working group of COVE partners from Germany, Poland, Lithuania, Latvia and Spain has analyzed the German dual system of vocational education and training as well as training regulations for four occupations and, on this basis, developed country-specific dual training courses for electricians, motor vehicle mechanics, fitters of fixtures and fittings in the building industry and cooks, which have been tested, evaluated and implemented in countries where school-based vocational training has been used to date.

3. An international working group of partners from COVE Germany, Latvia and Poland has developed three alternative training of trainers in SMEs according to the needs in all seven COVE countries, which have been tested, evaluated and implemented by COVE in all countries so that qualified trainers are available in the companies in all participating countries to carry out dual vocational training.

4. An international working group of partners from all COVEs has developed six training courses for imparting additional qualifications in the green economy to young people with strong learning skills in initial vocational training, which were trialed under various national conditions, evaluated and implemented by all COVEs after completion.

5. An international working group of partners from COVE Latvia, Lithuania and Italy has developed, tested, evaluated and implemented a further education program Enterprise and Entrepreneurship in Green Economy.

6. An international working group of partners from all COVEs developed six training programs specific to SMEs in the green economy, which were tested and evaluated under various national conditions and implemented by all COVEs after completion.

7. An international working group of partners from COVE Germany, Latvia and Poland has prepared two German master craftsman training programs "carpenter" and "electrician", adapted them to different national conditions, tested them, evaluated them and transferred them to all COVE after completion.

8. An international working group of partners from COVE Austria, Germany and Lithuania has developed regulations for new continuing education occupational profiles with a focus on the green economy, which have already led to national regulations for recognized continuing education qualifications (EQF Level 5) in Germany and Austria.

On this basis, all other COVES are now also pursuing the realization of state-recognized continuing education qualifications.

9. An international working group of partners from COVE Austria, Germany, Latvia, Lithuania and Poland has prepared the German system of dual Bachelor's degree programs as well as two existing dual degree programs "Management of Renewable Building Energy Technology" and "Business Administration for SMEs" and transferred them to all partners. On this basis, 5 module handbooks were developed for new dual study programs "Business Administration & Sustainable Management of SMEs", "Entrepreneurship & Innovation in Green Economy", "Electrical and Automatic Equipment", "Logistics - Green Supply Chains" and "Service technician", which were implemented by the COVE Austria, Latvia, Lithuania and Poland, which have not yet implemented dual study programs, together with companies.

This international joint work has proved extremely successful. The different experiences and preparatory work in the individual countries were used extensively, the specific strengths and capacities of the individual partners were combined and dual systems of vocational education and training, further education and higher education in all COVE released in a comparatively short time and a large number of new educational programs in the green economy at EQF level 3 - 6 were developed and successfully implemented. As different national conditions were already taken into account in the development work and the trialing took place under different national conditions, this also promoted and secured transfers and implementations in other countries.

In the evaluations and interviews conducted by an external expert in the first and second year of the project, three partners rated the international cooperation as only average and called for it to be intensified. In contrast, the evaluations and expert interviews in the fourth year of the project led without exception to excellent and very good assessments of the international cooperation. All partners would like to see a continuation of international cooperation, which is also secured through various measures and binding agreements (see chapter 7).

Coordination by Hanse Parliament, a transnational cooperation between the seven centers of excellence have established and developed, with ongoing exchange of information and experience, transfer of knowledge and best practice, implementation of development work based on division of labor, joint implementation of train-the-trainer programs, mutual personnel support as needed, for example provision of lecturers or assumption of advisory tasks. The international cooperation of the 8 centers of vocational excellence also concerned the joint implementation of educational programs, e.g., Bachelor's programs with a double degree.

In the transnational cooperation of the 8 centers of vocational excellence of the project, teachers and other staff of the centers were intensively involved and short internships and study visits were organized in centers in other countries, especially in the more advanced countries Germany and Austria. In addition, teachers were sitting in on the

trials of educational measures in other countries in order to gain experience for their own implementations.

The SMEs involved in the project are also included in the transnational cooperation so that international experience can be gained, contacts established, and international cooperation opportunities explored.

In the 3rd LOE project, international cooperation was expanded to include 70 institutions from 14 countries:

- a) 50 economic chambers, SME associations, VET providers and vocational schools and
- b) 20 higher education institutions.

These 70 educational and support institutions were involved in the 3LOE project as associated partners. This ensured that the 70 associated partners from 13 countries, as transfer recipients and implementation partners, use the project results themselves in their countries/regions and implement them on a permanent basis. Following the example of the 3LOE project, centers of vocational excellence are also to be developed in these countries in the medium term.

The associated partners are members of the Hans-Parlament and were involved in the work from the start of the project as part of its day-to-day business. They continuously contributed their needs, experience and knowledge to the further project work and advised on interim results. They received all results in written and electronic form and were given individual implementation advice.

Additional measures were implemented to promote and permanently strengthen international cooperation between the associated partners and the eight COVEs:

- Targeted involvement of associated partners in development work by the international working groups 1. to 9.
- Invitation and participation of associated partners in train-the-trainer programs.
- Lecturers from associated partners were invited as observers to the trials so that they could gain experience for their own implementations.
- Four international conferences were held in Panevezys, Vienna, Budapest and Riga, which were attended by all COVE partners, representatives of the associated partners and other stakeholders in order to present interim and final results, to provide personal advice and to plan transfers and their own implementations.
- In conjunction with the conferences, four half-day workshops were organized with the COVE partners and associated partners in order to identify differentiated conditions and needs, promote the personal exchange of information and experience and comprehensively support the implementation of project results by the associated partners.

- All concepts, tools, curricula, instructions for implementation etc. were made available in written and electronic form and associated partners received individual implementation consultations as needed.

The 70 educational institutions and SME promoters have intensively accompanied the establishment and development of the eight COVEs, received first-hand information, benefit from the international exchange of information and experience and received all project results so that they can implement them themselves on a permanent basis with advice from the COVE partners and develop their own COVEs in their countries.

This intensive cooperation of the eight COVE and the 70 associated partners will be continued intensively under the coordination of the Hans-Parlament after the end of the 3LOE project. Extensive use is also made of conferences, meetings, workshops, members' meetings, etc., which the Hanse-Parlament holds as part of its daily business.

By involving 70 associated partners from 13 countries, the work of the 3LOE project was strongly promoted and the transfer and implementation of project results was achieved on a very broad regional basis. The greatly expanded international co-operation was evaluated through interviews conducted by an external expert. The associated partners assessed this co-operation very positively and, without exception, would like to see it continued. International cooperation with all COVE and associated partners is secured after the end of the project (see Chapter 7).

Evaluation Reports

1 Written evaluation in the first year of the project

In the following, the results of the first online survey conducted between December 2021 and February 2022 in the frame of the evaluation of the “the development and operation of the 7 CoVEs” are presented. An online survey was created that was shared with the project coordinators.

21 people responded to the feedback survey.

1. General Assessment

	ABSOLUTELY AGREE	SOMEWHAT AGREE	NEITHER AGREE NOR DISAGREE	SOMEWHAT DISAGREE	ABSOLUTELY DISAGREE	TOTAL	WEIGHTED AVERAGE
The TTT met my expectations.	57.69% 15	30.77% 8	3.85% 1	3.85% 1	3.85% 1	26	1.65
The TTT was useful for my work.	53.85% 14	30.77% 8	11.54% 3	0.00% 0	3.85% 1	26	1.69
I would recommend this training course.	53.85% 14	15.38% 4	26.92% 7	0.00% 0	3.85% 1	26	1.85

2. Content and Methods

	FULLY AGREE	SOMEWHAT AGREE	NEITHER AGREE NOR DISAGREE	SOMEWHAT DISAGREE	DISAGREE	TOTAL	WEIGHTED AVERAGE
The content of the TTT was interesting and informative.	53.85% 14	34.62% 9	3.85% 1	3.85% 1	3.85% 1	26	1.69
The methods of the TTT were suitable.	65.38% 17	15.38% 4	11.54% 3	3.85% 1	3.85% 1	26	1.65
The training contents were relevant to my needs.	42.31% 11	26.92% 7	15.38% 4	11.54% 3	3.85% 1	26	2.08
I expect to use the knowledge and skills gained from this training.	53.85% 14	23.08% 6	19.23% 5	0.00% 0	3.85% 1	26	1.77

3. Lecturers/Trainers

	FULLY AGREE	SOMEWHAT AGREE	NEITHER AGREE NOR DISAGREE	SOMEWHAT DISAGREE	DISAGREE	TOTAL	WEIGHTED AVERAGE
The lecturers/trainers were communicative, friendly and approachable.	76.92% 20	19.23% 5	3.85% 1	0.00% 0	0.00% 0	26	1.27
The lecturers/trainers were goal- and result-oriented.	65.38% 17	23.08% 6	11.54% 3	0.00% 0	0.00% 0	26	1.46
The lecturers/trainers were competent and well prepared.	76.92% 20	23.08% 6	0.00% 0	0.00% 0	0.00% 0	26	1.23
The lecturers/trainers responded well to questions and queries from the participants.	65.38% 17	26.92% 7	3.85% 1	3.85% 1	0.00% 0	26	1.46

4. Organization

	FULLY AGREE	SOMEWHAT AGREE	NEITHER AGREE NOR DISAGREE	SOMEWHAT DISAGREE	DISAGREE	TOTAL	WEIGHTED AVERAGE
The overall organization was good.	80.00% 20	16.00% 4	4.00% 1	0.00% 0	0.00% 0	25	1.24
The overall atmosphere of the train-the-trainer was good.	88.00% 22	12.00% 3	0.00% 0	0.00% 0	0.00% 0	25	1.12
The training venue and environment was comfortable and conducive to the learning process.	60.00% 15	20.00% 5	16.00% 4	0.00% 0	4.00% 1	25	1.68
The duration of the training was appropriate.	65.38% 17	23.08% 6	7.69% 2	3.85% 1	0.00% 0	26	1.50
Overall, I am very satisfied with the training and would recommend it to other counsellors.	65.38% 17	19.23% 5	15.38% 4	0.00% 0	0.00% 0	26	1.50

5. Other remarks

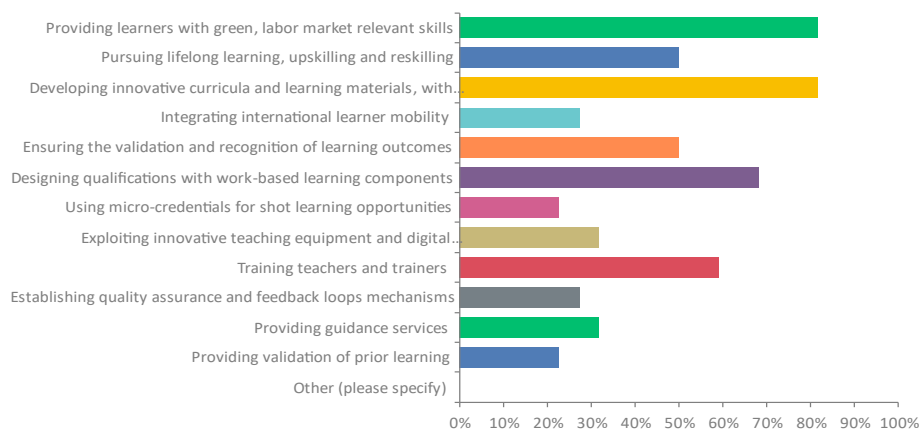
1. I liked that we had to work with mural every day. It provided opportunity not only to acquire the tool itself but also interact with other partners and especially spent some time together in national teams. Good dynamics, supportive and friendly atmosphere, trainers' commitment and interaction with each other during training. Well done!
2. The most interactive and exciting 3 days meeting ever. Partner PP13 IAGF - You did Your VERY BEST. Compliments for creating such a comfortable atmosphere. You rock!
3. Frankly, I didn't expect the training to be so interactive, interesting and useful. Huge thanks to the hosts! Great job! Waiting to meet everyone in Vienna!
4. The inputs collected are many and highly interesting. grounding the results, proposing predeveloped tools to be applied to the COVEs could help to make the inputs concrete. At national level there is a risk of watering down the inputs too much and not getting results. Thank you for the wonderful atmosphere, focused and relaxed at the same time...human relations are the most important things. I agree.
5. Many compliments for the organization even if in tricky times!
6. I think we should allow more time for open discussion on specific topics, especially connected with our COVEs, the successful stories and challenges (and possibly solutions, which we could all work together on.
7. Congrats to Austria for the nicely organized seminar!

2 Written evaluation in the third year of the project

The second anonymous survey of all project partners took place around two years after the first survey with an unchanged questionnaire in order to visualize changes in the evaluations over time. All project partners took part in this survey with a total of 25 respondents.

Q4: What teaching and learning activities does your CoVE work on? (multiple responses possible)

Answered: 22 Skipped: 3

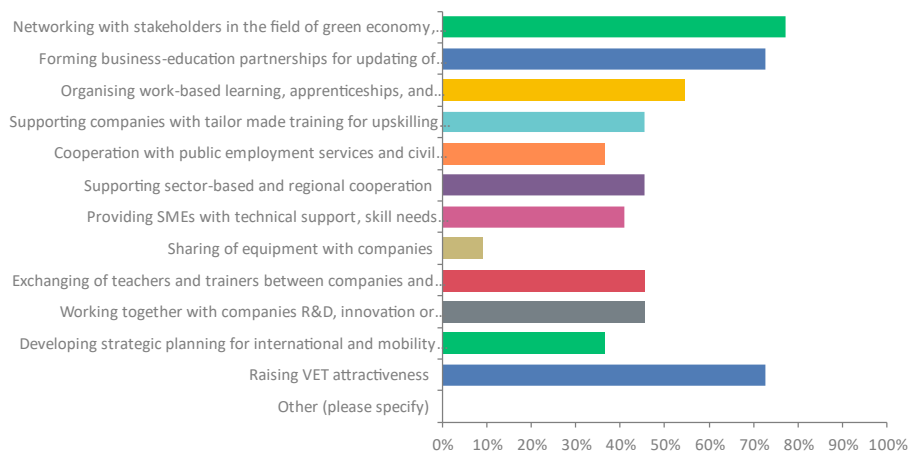


In their entirety, the eight COVEs cover all vocational education and training tasks at EQF levels 3 to 6.

They also fulfil all the tasks of a COVE. Networking with stakeholders in the field of green economy, business education partnerships and raising VET attractiveness are particularly strong (over 70%).

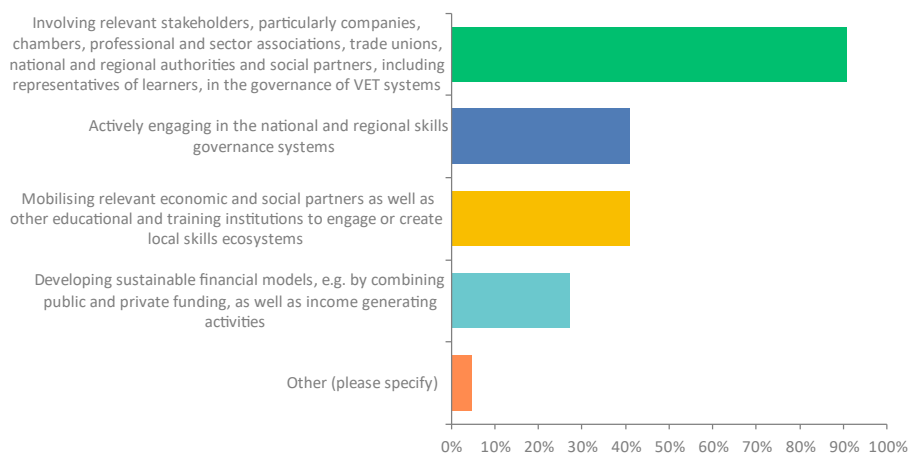
Q5: What cooperation and partnership activities does your CoVE work on? (multiple responses possible)

Answered: 22 Skipped: 3



Q6: What governance and funding activities does your CoVE work on? (multiple responses possible)

Answered: 22 Skipped: 3



Similar to the first survey, around 80 % of the project partners stated that the complexity of the 3LOE project tasks is suitable, while for around 15 % they are still complicated.

Also largely unchanged over time is completing the 3LOE project activities according to the schedule? While 70 % adhere to the work and time schedules, 30 % experience delays.

As in the first survey, 90 % of the project partners have been able to give their full contribution to 3LOE project tasks they are involved in, 10 % could not.

Unchanged from the first survey, all but one of the other project partners are still of the opinion that the frequency of project meetings is good and sufficient.

All project partners are convinced that they have sufficient resources to complete the project tasks and that all tools for cooperation and dissemination are available.

While three project partners stated in the first survey that they did not have enough information about the objectives of the COVE, their role and the role of the other partners in the respective regional COVE, all partners now feel very well informed.

The assessment of cooperation in the COVEs has improved over time. 80% of partners now rate it as very good and excellent, 20% as average.

The assessment of international cooperation and the exchange of experience has improved significantly over time. 85% of partners now rate these as very good and excellent and only 15% as average.

During the course of the project, all COVEs have firmly integrated other institutions (chambers, universities, vocational training organizations, etc.) into the work of the COVEs. With the exception of one partner, all other partners are now convinced that all relevant institutions are involved in the COVE work. With the exception of one partner, all other partners are of the opinion that the objectives of COVE are clear and well defined and that there is no reason to change the concept and structure of COVE.

All partners rate the quality of activities implemented on initial dual vocational training, further vocational training, higher education and on promoting innovation as good or excellent.

For a large number of project partners, the 3LOE project implemented:

- a) dual vocational training was introduced.
- b) further vocational training was greatly expanded and geared towards the needs of the world of work.
- c) dual Bachelor's degree programs were implemented for the first time.
- d) started to promote innovation and the realization of R&D projects for SMEs.
- e) significantly improved the quality of training and support programs.

To summarize, the second survey of the project partners resulted in extremely positive assessments of the structure and work of the eight COVEs. It is also particularly noteworthy that it was possible to complete the partner structure of the individual COVEs in the course of the project and to organize excellent cooperation within the individual COVEs and international cooperation. All project partners are clearly in favor

of continuing the collaboration and confirm that the continuation of the eight COVEs after the end of the project is assured.

3 Self-evaluation of the COVEs by the project partners

Working groups were formed with partners from different COVEs, who exchanged experiences on five questions and then determined the following results in plenary.

1st question

How do you experience the cooperation in your COVE? What is particularly good?
What is less good?

- Getting to know other local organizations.
- Diverse levels of education – sharing experiences.
- Create process of recognition between partners.
- Different sectors, different bodies (chambers, universities, VET schools) work together.
- Synergic effects of the 3LOE COVEs.
- Sharing resources to reach common goal.
- Promotion of dual system.
- Bridging the gab.
- Implementation dual system.
- Horizontally and vertically cooperation.
- Guidance by the Lead Partner.
- Resource sharing and implementation Workshops and conferences
- Different location work together, e.g. Riga, Vilnius etc..
- Inability meets physically often (because of location).
- Different regulation affecting different organizations.
- Changing employees of the partners.
- Lack of time and motivation.
- Difference of the COVEs members.
- Distance matters.

Summary 1st question

Most of the experiences reported are positive, in particular the cooperation between educational institutions at EQF level 3 - 6, the use of different resources, learning from each other and the joint processing of activities are emphasized. In addition, the promotion and implementation of dual vocational training and the organization of workshops and conferences are particularly positively highlighted.

In individual cases, the greater geographical distance between partners of individual COVEs (e.g. Italy) and the change of employees at individual partners are mentioned as negative aspects.

2nd question

Which measures and practices have proved particularly effective in promoting cooperation and the long-term continuation of your COVE?

- Physical and online meetings and train the trainer programs.

- Knowing each other's expertise.
- Collaborating on tasks.
- Cooperation through projects and funding opportunities.
- Common application.
- Long term continuation is secured.
- We expand the network and looking for new partner:
- Long term Continuation:
 - Further promoting cooperation within the 3LOE Partners.
 - Expand it with new partners, esp. in Green Economy, e.g. Cooperation with Build skills academy.
- Face-to-face meetings – good for promotion.
- Continuation at the educational level possible if you have legal entity
- Open up to new partners.
- Our goal is a legal entity.
- Four-year project duration is not enough.
- Educational continuation.
- Regular meetings (Zoom & Personal).
- Partner responsiveness is important.

Summary 2nd question

The permanent continuation of all eight COVEs developed in the 3LOE is assured. The activities planned after the end of the project will focus on the development and implementation of educational measures and the acquisition of additional partners. Some COVEs (e.g. Poland) want to create an independent legal form, while the cooperation of COVE Hamburg is already based on a state regulation. Physical and online meetings and train the trainer programs are very important for securing long-term cooperation, but joint work in the development and implementation of educational measures and the achievement of common goals are of crucial importance.

3rd question

How have you benefited from international cooperation with the partners of the other six COVEs? What are the particular highlights?

- Best practice exchange.
- Opportunity to invite to collaborate outside of the 3LOE project, for example project proposals have been developed.
- Summer schools between partners.
- The curricula, to adapt, but a great starting point / layout.
- Great benefits: The Train the Trainer Programs with exchange of knowledge among partners.
- Great benefits: Examples and best practices (such as the German COVE).
- Exchange and cooperation in a big network.
- Cooperation within 3LOE & beyond.
- Productive meetings, e.g. meeting in Rome.
- Finding cooperation partners across the EU.

- Share practices, e.g. Management, networking, learning.

Summary 3rd question

All partners report very intensive and fruitful cooperation. The exchange of best practices, networking and the pooling of individual strengths are highly valued. The 3LOE project has realized a very intensive, international cooperation that will be continued in the long term. Curricula were developed jointly, implementations were mutually advised, summer schools were realized, effective models and legal regulations from one country were implemented in other countries, etc. The cooperation now extends far beyond the narrower scope of the 3LOE project. Project meetings and train-the-trainer seminars, which have proven to be effective instruments for promoting cooperation and exchange, are singled out as particular highlights.

4th question

Which measures and practices have proved particularly successful in promoting international cooperation? What support for international cooperation would you recommend for the future?

- Physical workshops.
- Working in mixed groups.
- The length of the project – getting to know everyone.
- Strong leadership from the lead partner.
- Transferring the COVE idea to other branches.
- Testing the same curricula in different countries with evaluation and sharing results.
- Open and valuable resources for the partner.
- The challenges per country were big.
- Many efforts were driven to face the activities at local level.
- New contract between COVEs.
- In future yearly meetings international at the same time.
- Workshops throughout the whole project.
- Train the Trainer Seminars.
- Continuation of digital collaboration.

Summary 4th question

The excellent international cooperation was achieved and consolidated through biannual project meetings, the implementation of a total of eight train-the-trainer programs, effective management of the project and, in particular, through joint work in international project groups and in the development and implementation of training measures. An annual meeting, online meetings and further train-the-trainer seminars are desired for the continuation of international cooperation.

5th question

Which promotional and educational measures implemented as part of the 3LOE project were particularly important and successful in your COVE?

- Content of curricula corresponds to needs of attendees.
- Legitimacy because of project size, partners, curricula etc.

- Curricula adapted to local needs and different EQF levels.
- Dual education – opportunity for collaboration.
- In the project developed KAIN method.
- Austria: it was very important to involve the professionals in the further vocational trainings.
- Latvia: Green thinking themes are now in the different level of education and trainings.
- Italy: Tests at EQF level 4 will be recognized by the region (principal stakeholder).
- Poland: a new specialization “Ecologic specialization in logistics” as dual vocational training and new dual study program “Green supply chains” at the university.
- In the 3LOE Project developed dual studies.
- In the 3LOE project developed new vocational trainings at EQF level 5.
- Awareness in education: digital & green skills.
- Promotion at homepage and in social media.
- Promotion about press releases, online presents and social media.
- Adaption of existing curricula with focus to digital and green skills.
- Enhancement of curricula.
- Increased awareness about COVEs.

Summary 5th question

The 3LOE project began by comprehensively analyzing the development of the economy, population, labor and education markets as well as the qualification requirements in the seven partner countries. Based on this, over 40 training programs at EQF level 3 - 6 were developed in accordance with the qualification needs and adapted to the different national conditions. The educational programs were tested and evaluated in various countries in order to record the different national conditions and were revised and finalized on the basis of the evaluation results. The completed educational programs were transferred to all eight COVEs and 70 associated partners from 13 countries and individual advice was provided on implementation. The project partners confirm that this approach has proved extremely successful and that they have benefited greatly from it.

4 Evaluation results of expert discussions and interviews

4.1 Austria¹

Partner Structure

CoVE Austria consists of three partners. CoVE Austria is coordinated by WIFI Styria as the extended arm of the Styrian Chamber of Commerce (Körblergasse 113, A-8010 Graz). The two other partners who have signed the "*Cooperation Agreement on the*

¹ Prepared by Institut für angewandte Gewerbeforschung der Wirtschaftskammer Österreich

Establishment of a Center of Excellence in the Green Economy in Austria" are Campus 02 - University of Applied Sciences (Körblergasse 126, A-8010 Graz) and the Institute for Applied Business Research as the extended arm of the Austrian Federal Economic Chamber (Wiedner Hauptstraße 63, A-1045 Vienna).

CoVE Austria works together with many other institutions and organizations and maintains a lively exchange. Particularly about the creation of new (dual) vocational training in the area of the "green economy", for example with federal guilds of different professional groups such as chimney sweeps or vehicle technicians or with universities such as the University of Graz or Graz University of Technology, but also the Talent Center of the Styrian Chamber of Commerce. These partners act as loosely associated partners within CoVE and have not signed the CoVE agreement. There was also cooperation with educational institutions such as the WIFI Tyrol and Lower Austria as well as the education policy department of the Austrian Economic Chambers.

"As a department of educational policy of Federal Economic Chambers in Austria, we have not been involved in financing the CoVE. The nature of our support lies in the joint development of qualifications relevant to the labor market and in promoting relevant conditions that facilitate meaningful initiatives in higher VET."

The associated partners provided input for the creation of the content of the "Testing Tool for Vocational and Qualification Counseling", "Basic digital skills", "Service Technician" and "Basic knowledge of sustainability topics", among other things.

COVE structure and cooperation

CoVE Austria is a cooperative partnership consisting of two educational institutions - a vocational education and training provider and an academic education provider - and a company representative.

The two educational institutions, CAMPUS 02 - University of Applied Sciences for Business and the WIFI Styria as the extended arm of the Styrian Chamber of Commerce, are based in the Styrian capital Graz, approx. 200 km south of Vienna. From Vienna, the third partner for the whole of Austria, the Institute for Applied Business Research, acts as an extended arm of the Austrian Federal Economic Chamber as a company representative.

The IAGF has been in existence since 2016 and, due to its innovation activities in the field of skilled trades, has direct access to the individual federal guilds of professional groups from skilled trades and crafts throughout Austria and a dense network of companies that are active in training. A key pillar of the institute is to modernize initial and continuing vocational training and make it more attractive. For example, the IAGF can draw on many years of expertise in the revision and modernization of numerous master craftsman examination regulations in the trade and craft sector.

As this combination of partners provides a good representation of Austria's educational landscape at EQF levels 4, 5, 6, and 7, and direct input from the business community

can be acquired through the company representatives, a cooperation agreement was chosen as the CoVE form, which was signed by all partners. The Cooperation Agreement came into force on 30.06.2021.

"This is very good because several NQF levels are taken into account, not just 4 and 5, but also 6 and 7."

To ensure that the project ran smoothly and to meet deadlines for results, the partners coordinated with each other at regular intervals. This took place in face-to-face meetings as well as online meetings or over the phone.

"If necessary, there is coordination, exchange of experience, and support. - In the beginning, there was a lot of exchange. Then the work packages were worked through."

The effort for project management and coordination tasks is manageable and amounts to around four appointments per year. If necessary, extra appointments were arranged in good time. The cooperation is rated as very goal-oriented, uncomplicated, and open. All partners are interested in achieving the best possible output. The cooperation between training providers and company representatives was perceived as very positive and should be continued in the future.

Only external factors, such as the accreditation of Bachelor's degree programs at universities of applied sciences, were identified as bottlenecks in the development of the CoVE. However, these external factors cannot be controlled, so it can be said that there were no problems with the development of the CoVE.

"The collaboration is great! On the one hand, competent people are involved with a common goal in mind, namely, to improve education in Austria. On the other hand - and this is a real highlight: there was a cooperative spirit, not a competitive one! - Everyone was pursuing the same goal, namely, to create sustainable vocational training together!"

All of the goals set were coordinated, resolved, and implemented within CoVE. CoVE Austria does not have any dedicated "associated partners" in the sense that they have also signed the CoVE agreement. However, there are many existing collaborations with, for example, experts from professional groups (federal guilds), sector representatives of the WKO or universities, and other research institutions, with whom a regular (informal) exchange takes place via CoVE Austria. Feedback is obtained from the partners and possible future collaborations are discussed, either within the framework of CoVE or other education-related collaborations.

"What has improved? - The direct interaction with relevant companies and a better understanding of their qualification needs!" -

"What has changed above all is the cooperation and collaboration with experts from various sectors, accompanied by a vocational training research institute and tailored to the needs of the labor market."

The free choice and form of the cooperation model or legal form is seen as a great advantage for the establishment of a CoVE because it makes nationwide action possible or much easier. The long-term or sustainable financing of the operation of the CoVE would have to be better resolved, as each country has different legal requirements, and non-profit organizations can also be part of a CoVE. Nonetheless, attempts are being made to maintain the CoVE in the long term by selling the developed offer and other sources of funding. It is seen as an advantage that all three partners involved are part of the Austrian Federal Economic Chamber network and that there is a great deal of interest in the training program developed as part of 3 LoE, which combines the dual training pathway with an academic education pathway.

Tasks performed by the COVE (tasks of the COVE)

"Excellence in VET is a priority, I am familiar with the COVE as it has developed learning outcomes for qualifications that are in high demand in the Austrian labor market. Positive aspects: closeness to the labor market and the actual needs of the respective industries."

The main aim of COVE Austria was to develop new vocational training courses for SMEs in the area of "green skills" and "green economy".

"The CoVE has provided pioneering work in the field of CVET based on apprenticeship qualifications in combination with professional experience".

The establishment of higher vocational education and training in Austria at NQF levels 5 to 7 in cooperation with CoVE Austria can be seen as a milestone in innovation and making dual vocational education and training more attractive, which will be further strengthened by the creation of the Higher Vocational Education and Training Act (HBB Act), which will now come into force on May 1, 2024.

The CoVE 3 LoE project was able to make an important contribution to this milestone, as the first pilots on NQF 5 were developed as part of this EU project. These formed the basis for the content and accelerated development of the HBB Act. In addition, the "Technical Consulting for Energy Efficiency" qualification developed in LoE 3 will act as a pilot for the implementation of the HBB Act. This qualification will be the first formal training according to the HBB Act and serves as a template for the development of a handout for interested qualification providers who are planning to submit and implement a new higher vocational training by the HBB Act in the future.

"CoVE is very positive because with CoVE a contact person or expertise is established to support you in your activities - as a further developer in higher vocational education (HBB), but also as a know-how transfer for further development in training regulations in teaching, but also in communication with the stakeholders of the Green Skills Initiative, which range from BMK, bmaw, social partners, research institutes to the networks of the entire WKO (WIFI, specialist organizations, political departments, divisions, education platform, provincial chambers)."

The aim was to lay the foundations for making (dual) vocational training more attractive for trainees and opening up new training and career opportunities for them, while also creating new formal qualification opportunities for companies in the field of the green economy, which were previously lacking.

"Dual VET is at the core of VET in Austria and is therefore very highly rated. The same applies to all initiatives in CVET that build on dual VET qualifications."

CoVE Austria was able to achieve all the goals set in the project, such as the creation of new qualification standards and examination regulations at the NQF5 level, such as "NQF5 Heating technology", "NQF5 Energy efficiency consulting", "NQF5 Fire protection expert", "NQF5 High-voltage technology", "NQF5 Body vehicle technician". The finalization of the "Service technician bachelor" and the "Service technician master course" is planned.

Furthermore, train-the-trainer courses for "basic digital skills", networking activities, and joint regional events were carried out in close cooperation. Training courses were also held for trainers in SMEs. Curricula were also transferred from the Austrian CoVE to the other CoVEs developed in the 3LoE project. Furthermore, a basic course for sustainable topics will be developed by the Austrian CoVE and transferred to all partners.

"We are at the beginning of the great energy transition! The need for a CoVE is unbroken. The focus on the green economy must remain!"

Several promotional activities were carried out as part of the CoVE activities. On the one hand, the results and activities were presented at conferences, festivals, and events of all CoVE Austria partners (see dissemination documentation), on the other hand, the project was presented to relevant stakeholders in networking meetings. The training measures were carried out at the respective organizations by the activity plan. It is planned to offer the Service Technician on NQF 5 and the Bachelor, as well as all content not yet completed at the time of the interview, as products even after the official conclusion of the CoVE project.

As part of the promotion activities and the preparation of the results, we worked together with relevant stakeholders in the region where necessary.

A press conference on CoVE-Austria was successfully held in June 2024 and reported on in one of the highest-circulation regional newspapers (Oberösterreichische Nachrichten).

About the implementation of curricula at levels 6 and 7, CoVE-Austria is thinking aloud about the possibility of including universities.

"One "lesson learned" would be the involvement of universities so that curricula at NQF level 6 + 7 can be implemented more easily because universities of applied sciences in Austria have to have new curricula approved or accredited by the state. Universities have their curriculum commissions (university autonomy). The aim would be to better

involve universities of applied sciences at a political level in the development of curricula so that the quality of universities of applied sciences (high practical relevance) can be incorporated into higher vocational education."

The Federal Trade and Crafts Division also sees the added value of combining practice and theory in

"It might also make sense to involve the scientific community more, such as Prof. Dr. Bernd Gössling from the University of Innsbruck's Institute for Organization and Learning, as this could incorporate the latest findings from educational research."

Due to the long tradition of dual vocational training in this area, CoVE Austria was also able to offer its expertise and support to all those 3LoE project partners who are in the process of implementing or further developing dual vocational training in their country. To this end, an exchange took place at the VESK vocational school in Vilnius, Lithuania, where the Austrian dual system was presented and the advantages from a company perspective were outlined. In addition, a "Train the Trainer Masterclass" was organized for the teachers at the vocational school, where two outstanding experts in the confectionery trade passed on their knowledge in a two-day training course.

International co-operation

CoVE Austria uses the exchange with the international 3LoE partners to implement additional projects.

In close cooperation and exchange with the German project partner Berufliche Hochschule Hamburg, CoVE Austria is working on an Austrian "dual study" model, which will be further developed after the end of the project.

Furthermore, the Basic Digital Skills course was developed together with CoVE Poland. The CoVEs are generally in contact via project management as well as independently to promote further international cooperation. CoVE Austria is pursuing the goal of submitting further international education projects with other CoVEs and their member organizations in the next European call for proposals. The lessons learned by the various partners will be of great value for the further procedure to promote further cooperation.

In the future, it would be desirable for a formal or informal exchange between the individual CoVEs to take place regularly. - As far as the Austrian CoVE is aware, this is also planned by other CoVEs. A general wish to strengthen international activities would be to reduce the management bureaucracy in such projects so that the partners can concentrate even more on the content.

The international cooperation between the project partners is seen as solution-oriented, friendly, and very positive.

Long-term continuation and plans for the future

In the long term, the cooperation is to be continued and intensified. The accreditation of the BSc Service Technician is in progress, as is that of the Master's degree. The basic course for sustainable topics will also be integrated into Wifi Styria's product portfolio once it has been completed.

"... however, what is definite is the increased understanding of the importance of dual VET in general and the development of new qualifications in higher VET in particular. These new qualifications are only open to individuals who already look back on several years of professional experience, as a rule in combination with a first formal qualification, such as an apprenticeship qualification. Learning outcomes and clear assessment procedures have been developed and the first of these new qualifications will be made available to learners in 2025."

Funding for CoVE Austria has not yet been secured and therefore the continuation of CoVE after the end of the project is not yet certain. However, it is in the interest of all partners of the Austrian CoVE to continue it. The independent acquisition of financial resources is dependent on the implementation of the training courses created. The realization of the training courses depends on the number of participants. However, other alternative sources of funding are being sought, for example in the form of further third-party funding for research projects, and it is the declared aim to continue both national and international cooperation.

To be able to develop new training courses, a new CoVE submission or extension would be important.

Furthermore, it is being evaluated whether CoVE Austria should be expanded to include new partners (possibly universities and other educational institutions).

Conclusion (and Recommendation)

In principle, the creation of COVE Austria can be considered a great success. Within four years, CoVE Austria was able to achieve all the goals set within the framework of the project and, through cooperation with regional, national, and international partners, has built up many skills for the future creation of educational products. In addition to the project objectives, further formal training courses in vocational training in the green economy were initiated, which will be continued after the end of the project to establish formal qualifications in the field of green skills and by the HBB Act.

The cooperation with all organizations was very good, goal-oriented, open, and very collegial. And

"The Hanseatic Parliament is a very competent project manager".

The expectations of the management, future-oriented educational products that promote the Styrian and Austrian economy and make companies fit for the future, were fulfilled.

About dual vocational training, two milestones have been achieved, making dual vocational training more attractive - especially in the training offered in the green economy: On the one hand, journeymen and journeywomen can now continue their formal training after completing their apprenticeship at the NQF level 4 by training or specializing at NQF level 5. This improves their career opportunities and opens up new prospects for them. The master craftsman qualification is no longer the only further training option with a formal qualification.

The NQF5 Service Technician pilot aims to improve the permeability between academic and vocational training. Graduates of this two-year training course can go on to study for a Bachelor's degree, which only takes a further two years instead of three. The subject-specific examination is also taken into account when taking the university entrance examination.

This improves career opportunities and opens up new perspectives. The master craftsman qualification at NQF 6 is no longer the only further training option with a formal qualification.

"As regards the development of meaningful qualifications that address urgently needed skills and hence ensure employability of those holding the said qualifications prospects are very favorable." And "Keep close to the relevant industries".

4.2 Germany

COVE Dresden

The new Energy Efficiency Competence Centre, built and equipped by the Dresden Chamber of Crafts with financial support from national funds, was an excellent starting point for the development of COVE Dresden in the green economy. Unfortunately, at the start of the project there were significant staff shortages at the Dresden Chamber of Crafts, which persisted into the second year of the project. One problem, however, was that the responsible employees at the Dresden Chamber of Crafts had no or insufficient English language skills, making international cooperation difficult due to language barriers. In the course of the project, however, the Dresden Chamber of Skilled Crafts recognised the great importance of international cooperation and began to recruit employees with good English language skills and to equip existing employees with these skills while the project was still running.

1. Partner structure

The Dresden CVE is coordinated by the Dresden Chamber of Crafts.

The Dresden Chamber of Crafts signed a cooperation agreement with the company Stiebel Eltron GmbH & Co. KG, the European Institute for Postgraduate Education GmbH EIPOS and the Gustav Anton Zeuner Vocational Training Centre for Technology in Dresden.

2. COVE structure and cooperation

As part of the 3LoE project, the Dresden Chamber of Skilled Crafts has created its own 'Energy Efficiency Centre for Buildings' competence centre with funding from national funds, which is integrated into the structure of the Dresden Chamber of Skilled Crafts. In cooperation with other institutions, this competence centre offers numerous courses on energy saving, energy-efficient building technology and renewable energies. The chamber is intensively involved with the topic of the green economy, which was a great help in getting the project off the ground:

"We already had a certain knowledge advantage, as energy efficiency and the green economy were already key features of our training centre."

Before the 3LoE project, the Dresden Chamber of Crafts was already in contact with the vocational school Gustav Anton Zeuner. The common interest in green economy made them cooperate within the project and sign a cooperation agreement. As they were already in contact before the project, the cooperation was easier and faster:

"Trust was already there. Thanks to this previous collaboration, we also know what training was provided at the vocational school. The vocational school know what courses we run, what opportunities we have."

Within the COVE centre, the Dresden Chamber of Crafts is cooperating with the training provider EIPOS GmbH and with manufacturers. The latter provide them with heat pumps and are using their technology and facilities in exchange.

Even though the Dresden Chamber of Crafts was already working with other institutions on the green economy before the 3LoE project, the Dresden CoVE took some time to set up due to a change of staff:

"We had a change of personnel in the project. This has really been a bit of a handicap because various courses that we were to test, implement or develop at the beginning of the project had to be changed to meet the needs of our craftsmen."

3. Tasks performed by the COVE

Dual training is an integral part of the German education system and was therefore not a new feature for the Dresden Chamber of Crafts:

"In Germany, training is based on the dual system. We have been living with this type of vocational training for decades, which is very successful, and so this focus within the framework of the project is very relevant for us."

The courses developed by the Dresden COVE within the 3LoE project were adapted to meet the needs of the local companies:

"We have to be very careful to develop and offer courses that correspond to the interests and needs of the tradespeople, both in terms of content and organisation, for example in terms of length and timing."

For example, a new customer service technology course and a modular additional qualification for customer service technicians were developed in the 3LoE project. This

additional qualification is intended for trainees in initial training and can only be offered during the holiday period to be taken by apprentices:

“We are tied to certain times. We have to make specific use of the holiday period because the apprentices are otherwise in training, at vocational school, in the company or with us for inter-company apprentice training.”

The Dresden Chamber of Craft cooperated with the training centre EIPOS GmbH to make the training for building energy consultants accessible to everyone, regardless of their diploma. Offering a training for building energy is very important in Germany because every building owner needs to hire an energy consultant to be able to apply for state subsidies. The EIPOS GmbH already offers this course, but it is only accessible to people with a university degree. People without a university degree must take a basic course of 80 teaching units. The Dresden Chamber of Crafts developed a basic course with EIPOS GmbH for people without a university degree within the 3LOE Project, allowing them to access then the training course for building energy consultants offered by EIPOS GmbH.

New modular training courses for builders was also developed to support private people who want to build, construct or buy a building. The course provides the participants with legal bases and knowledge on system technology, but also includes the environmental aspect:

“We sensitise them to take the issue of sustainability into account in their decision.”

The 3LoE project enabled the Dresden Chamber of Crafts to evaluate courses they were already offering before the beginning of the project:

“In the 3LoE project in particular, we have now evaluated the master craftsman course in electrical engineering [...]”.

In the 3LOE project, COVE Dresden developed, tested, evaluated and implemented the following educational measures:

- Customer service technician
- Client seminar
- Cradle to cradle
- Circular economy
- Training of Trainers in SMEs
- Master craftsman course in electrical engineering
- AI seminar
- Basic course for energy efficiency experts
- Heating optimization

- Insulation materials in building services
- Design and planning of heat pumps

4. International cooperation

The cooperation between the Dresden COVE and the other COVEs mainly took place during the project meetings and the courses development. This is partly due to the language barrier but also to the difficult context in the chamber Dresden which the 3LoE project started:

“We started at a time when Covid was around, so some meetings could only take place online. Travelling was restricted, which, of course, also weakened our relationship to a certain extent. We shouldn't underestimate that. Sitting face to face like we do today is actually essential, also to build trust.”

The difference between education systems in different countries made international cooperation within the project very important.

“We were supposed to test a course concept where we realised that this topic is already taken into account in our initial training, i.e. in vocational training, whereas it is a topic for continuing vocational training in other countries. So, the educational programmes and vocational training courses differ from one country to another. This is not transferable 1 to 1.”

There is room for improvement in international cooperation for COVE Dresden. The Dresden Chamber of Craft underlines that it is very important to exchange on the obstacles, successes and the work done by the other COVEs.

5. Long-term continuation and plans for the future

The cooperation within the Dresden COVE will continue. The Energy Efficiency Centre for Buildings was set up with the help of the 3LoE project, has already become very well established, is held in high regard by SMEs and is completely integrated into the structure of the Dresden Chamber of Crafts, so it is sustainable. The centre is necessary to keep up with the different evolutions of the sector of the green economy, which is undergoing rapid growth and transition. Thanks to its partnerships, the Dresden Chamber of Crafts can offer training courses linked to the new technologies:

“We always want to present the latest technology, new technologies. We work together with the relevant actors, who then also provide us with new technology, which we can then incorporate into the lessons and really explore using practical examples.”

In the future, the Dresden COVE wishes to improve the partners' coordination to capitalise on each partner's resources and capabilities:

“We need to look even more closely at how we can make joint use of capacities or even the limited resources, which we are also experiencing in terms of training staff, for example, and also coordinate even more in terms of course developments. I think there are still topics that are perhaps being developed in parallel by one partner and

the other, where we can say that we need to coordinate even better in order to be able to utilise resources well [...]. We're still a long way from realising our full potential."

The Dresden CoVE already covers a large area but should continue to develop at regional rather than national level:

"We want to pick up people who are active in the regional partnerships in the immediate vicinity. And that's why it makes little sense nationally"

This view is shared by the vocational school Zeuner:

"I also think that a certain regionality is very important right now. We also want to stay local, have contact with local companies and respond to their needs. If we do it centrally, I don't know, for the whole of Germany, then we're just too far away."

As Saxony lies on the border between Germany, the Czech Republic and Poland, this paves the way for international cooperation with Czech and Polish partners. However, the language barrier is an obstacle that must be taken into account:

"The language barrier should never be ignored."

As part of the 3LoE project, a good co-operation has been fruitfully developed, particularly with COVE Austria, which will be continued even more intensively in the future.

As Dresden COVE is built around the Chamber of Crafts, it will evolve in line with business needs.

6. Conclusion

The Dresden COVE took some time to set up. Although it already existed in a different form, the activities and structure had to be adapted to become a centre of vocational excellence. Now, Dresden COVE is well established. As it is completely integrated into the structure of the Chamber of Crafts, its business model is sustainable. Thanks to the 3LoE project, the Energy Efficiency Centre for Buildings developed new courses oriented towards the green economy and formalised its collaboration with its partners through agreements. Through the 3LoE project, the Dresden Chamber of Crafts could evaluate its training courses and reflect on what could be improved.

In the future, Dresden COVE is set to expand locally and regionally. It would not be relevant for Dresden COVE to be active at the national level because their activities are designed to meet local and regional needs. Germany being a big country, other regional COVEs on the green economy should be developed and adapted to the regional contexts. The Dresden COVE could however include Czech or Polish institutions at the border with Saxony in the event of demand from companies. To do so, there should be a special focus on language skills to overcome the language barrier. The importance of international cooperation has been demonstrated in the 3LoE project.

The Dresden COVE will likely have to involve new partners to keep up with the rapid growth and transition the economy is undergoing.

COVE Hamburg

In the project application, it was planned to develop only one COVE Germany, which was to be developed and operated by the project partners Hanse-Parlament, Hamburg University of Cooperative Education and Dresden Chamber of Crafts. After the project began, it quickly became apparent that the distance between Hamburg and Dresden was too great to carry out educational and promotional measures together. It was therefore decided to develop two independent COVEs in the green economy in Germany, one in Dresden and one in Hamburg.

The Hanse-Parlament and the Hamburg University of Cooperative Education have intensively accompanied and strongly supported the development of the COVE Dresden. A COVE was realised very successfully in Dresden.

At the start of the project, the Hamburg government passed a law to establish a new vocational university in Hamburg (Berufliche Hochschule Hamburg), which is obliged to cooperate intensively with companies, vocational schools, the Chamber of Industry and Commerce, the Chamber of Crafts and the trade unions. The Hamburg University of Cooperative Education was integrated into the Vocational University Hamburg, which began operations in 2022, making the Vocational University Hamburg a new partner in the 3LOE project. As the staff of the former Hamburg University of Cooperative Education continued to work on the project, this change of partner went smoothly. From 2022, the Vocational University Hamburg developed COVE Hamburg in the green economy very successfully. COVE Hamburg is set up and operated on the basis of the Hamburg Act with intensive co-operation between companies, vocational schools, chambers, etc.

The two German COVE Hamburg and Dresden co-operate intensively with each other.

1. Partner structure

The Hamburg COVE is coordinated by the Berufliche Hochschule Hamburg (BHH), a University of Applied Sciences offering dual study programmes that combine theoretical education on EQF6-level with practical training. The BHH collaborates with several vocational schools, companies and the School and Vocational Training Authority of Hamburg. All of them are de factor part of Hamburg COVE.

2. COVE structure and cooperation

The Hamburg COVE is based on legal frameworks such as the Hamburg Higher Education Act, agreements between the BHH and the City of Hamburg as well as the Vocational Training Act. The structure of the Hamburg COVE is considered as a real advantage:

“The advantage we have is that the legal framework makes many things easier because we can simply bring about cooperation more quickly [...]. There is a separate paragraph in the Hamburg School Act on cooperation between learning venues, which enables all participants involved in vocational training, to help shape the educational programmes and also to help develop them further.”

At the same time, the legal framework makes it more difficult to include external partners:

“On the other hand, it is sometimes also a close shop story that outsiders are perhaps not yet allowed in or allowed to participate in the way that would perhaps be helpful for a COVE.”

Other universities are not yet involved, and co-operation with several vocational schools and numerous companies is a matter of course:

“The university perspective is so far removed from the solution-orientated things in vocational schools that you can say, what's the point?”

However, it is very important, notably to support students with learning difficulties:

“As a university, we sometimes have students with learning difficulties, and we don't know exactly what to do with them. An impulse from the vocational school side, which is also very much involved with students with learning difficulties, can certainly be important and helpful. The visibility of mutual support formats or mutual education formats is a central task in the COVE.”

Every year, representatives of Universities of Applied Sciences, VET schools and companies gather during educational conferences to discuss the content of the modules and trainings.

The cooperation is working well. Signing a cooperation agreement is seen positively, as every party involved knows what to do and what to expect. The involvement in the COVE has particularly had positive impacts on the image of VET schools:

“We are now cooperating with each other on an administrative and politically intended level, and it has already upgraded the status of the vocational schools. I believe that vocational schools also benefit from the fact that it is simply recognised that vocational schools can do more than what the general public perceives them to do.”

An obstacle to the development of the Hamburg COVE is the lack of time.

It is sometimes difficult to involve chambers of commerce and crafts in a COVE, because of the potential competition in offering trainings:

“The chamber generally has very strong vested interests and feels constantly threatened [...]. It is a great hindrance.”

3. Tasks performed by the COVE

The central theme of the COVE is to upgrade vocational education and training and attract trainees and students to the companies.

“The vocational schools, which are managed here by the Hamburg Institute for Vocational Education and Training, also have the political task of supporting the dual study programme.”

The BHH offers dual study programmes in a specific format for the first two-two and a half years:

“In the normal dual study programme, you always spend a few months at the company, then a few months back at the university and then it alternates, in an alternating format. That's not the case with us in the first two and a half to three years. The trainees are only at the university in block weeks, which take place during the Hamburg school holidays, and also have so-called seminar afternoons so that there are not too many gaps between the placement process at the university and the examination process that takes place at some point.”

After these two-two and a half year, when the EQF4 level is reached, the dual study programmes at the BHH follow the classic path, meaning that the students spend several weeks and months at the university and at the company at the same time.

Over the course of the project, BHH has developed and implemented five different dual Bachelor's degree programmes, developed a degree programme on energy efficiency, which will be launched after the end of the project, and worked intensively on the development of degree programmes in the green economy in the other COVEs.

4. International cooperation

International cooperation is deeply valued by the Hamburg COVE:

“I think it's always important for the further development of a COVE to look at what advantages and disadvantages the other project partners actually see and how they do it, i.e. simply at this level of exchange.”

The Hamburg COVE has developed close links with other partners of the 3LoE project. A summer school will take place in autumn at the Pomeranian university in Słupsk:

“During this summer school, we can broaden and open up completely different horizons. It is something that represents significant added value for everyone involved, especially for the students and trainees.”

The BHH is also sharing its experience in dual study programmes with Austrian partners and help them connecting vocational and academic education.

The Hamburg COVE wish to continue cooperating with the other COVEs through meetings, for example twice a year during which they could exchange ideas, share successes and difficulties.

5. Long-term continuation and plans for the future

Thanks to its legal framework, the existence of the COVE Hamburg beyond the 3LoE project is guaranteed:

“The structure and form will certainly change a little, but fortunately and thanks to the many good people who have made this happen in the past, the continuation is pretty certain. I think four years is enough to create structures to continue to work on. You can always do it in the same way as with agile project management, you can always improve it, have an iterative approach, but you have a basis.”

Even though four years is considered enough time to establish a base, having a lead partner is essential for the smooth running and sustainability of a COVE:

“In the end it is better to have a lead partner who holds it together a bit [...]. Support from a third party would be an absolute must in order to stabilise the work and maintain the benefits.”

The Hamburg COVE can cover well the core topics needed in the curriculum for the design of their training courses and degree programmes. However, it could be interesting to gain new associated partners on a temporary basis to offer specific compulsory elective subjects:

“Let's take the example of human resources management, leadership and development. There's a relatively big discussion right now, as there is everywhere, about artificial intelligence, to what extent AI can provide support in some way, help, perhaps even make something superfluous. These are completely new developments that you can't yet find in the curriculum in their entirety. They have always been considered, but there is no focus and if you want to develop something like this into a focus, which a university can certainly do, then there is actually still a lack of cooperation partners who can help drive the whole thing forward.”

The efficiency of a OoVE lies in the diversity of its partners:

“You can increase the efficiency of a COVE by cooperating with very different partners.”

In the future, the partners of the Hamburg COVE plan to cooperate with research institutes on hot topics and to involve chambers of crafts:

“It is very important for us, because of course they often provide a lot of impetus in terms of content. That is one of the challenges, one of the tasks for the future that we will certainly have to face.”

Further educational courses not related to the degree programmes may be developed in the future by the BHH, even though it is not considered as a priority at the moment:

“It is definitely an issue because, as a university of applied sciences, we are and will be responsible for very application-oriented degree programmes and continuing education programmes. This is something that will certainly develop in the future, but we have not yet made any concrete considerations.”

6. Conclusion

The Hamburg COVE has a unique structure because it is based on legal frameworks. The cooperation with the partners is smooth and well defined. The work performed by the COVE within the 3LoE project has had a positive impact on the VET reputation.

COVE Hamburg is well established regionally but would gain from having new partners, especially chambers of crafts. Cooperation with the chambers is necessary to cover hot topics and include them in the educational offer. This is a challenge, as chambers of crafts sometimes see them as competitors in the training offer and tend to be cautious.

Thanks to the 3LoE project, the Berufliche Hochschule Hamburg increased its international cooperation and has positioned itself abroad as a model for dual study programmes. The challenge is to maintain contact with the other COVEs beyond the project. The support of the lead partner is a decisive factor in ensuring the sustainability of cooperation between COVEs.

For Hamburg COVE, the challenge is not so much to continue to exist, but rather to be innovative to keep up to date and continue to grow.

4.3 Latvia²

This report is prepared based on the interviews with the representatives from three CoVE Latvia partners: Liepājas Valsts tehnikums (LVT) (Liepāja State Technical School), Latvijas Amatniecības kamera (LAK) (Latvian Chamber of Crafts), Rīgas Stradiņa Universitāte (RSU) (Riga Stradins University). The fourth interview involved the official from the Vocational and Adult Education Department of the Ministry of Education and Science (MoES). This representative was frequently briefed on the progress of the 3LoE project and was interviewed in their capacity as a national authority overseeing VET education.

Partner structure

² Prepared by Valsts izglītības satura centrs (National Centre for Education), Latvia

LVT: Liepaja State Technical School acts as the lead partner for CoVE Latvia. With a century-long legacy, LVT College is dedicated to vocational education, offering over 20 programs including vocational training, continuing education, and professional development for individuals seeking to enhance their skills and competencies. These programs not only foster personal growth among students but also ensure their alignment with the demands of the job market. LVT collaborates closely with industry partners to provide work-based learning opportunities, enabling students to acquire hands-on experience. Additionally, LVT extends methodological support to other vocational training institutions and promotes ongoing professional development for educators.

LAK: The Latvian Chamber of Crafts is a professional self-governing organisation of craftspeople which promotes the development of crafts trades in Latvia. Its activities, among others, include development and coordination of apprentices' and journeymen's training programs and qualification requirements; placement of apprentices and journeymen with the best master craftsmen for training and instruction; formation of qualifying commissions for the evaluation of journeyman and master craftsman candidates' work; re-training and in-service training, etc.

RSU: Riga Stradins University is a state-funded university which offers various study programs and ensures the realization of scientific projects, providing training of experts in health care and social sciences who work in Latvia and across the world. It is the only university in Latvia which has traditionally been integrated into the healthcare system of the country, and therefore ensures a successful run of the university, which is a precondition for an effective existence of the health care system in Latvia.

VISC: National Centre for Education of the Republic of Latvia is the public institution directly subordinated to the Minister of Education and Science. Its main functions include development of Curricula for general and VET education, development of centralized examinations, coordination of special and inclusive education, approval of textbooks and organization of state language proficiency testing.

COVE structure and cooperation

CoVE LV operates on a national and regional levels and provides education for EQF levels 3 – 6. With regard to CoVE levels LVT and LAK represent 1st and 2nd level and are responsible for vocational education and further education. RSU is responsible for higher education and represents 3rd level. VISC as Ministry of Education and Science agency provides political level support on all levels.

When the 3LoE project was launched the composition of Latvian partners changed as the VET partner dropped out and another VET institution and the Ministry's agency stepped in. Consequently, the CoVE composition deviated from the original concept. Additional efforts were necessary to identify shared areas for collaboration among the participating partners. LVT focuses more on the development of STEM fields, RSU – on International Business and Sustainable Economy, and the Chamber of Crafts – on craftspeople. To ensure more efficient coordination and collaboration additional

partners needed to be involved to bring in new perspective to the existing partnership, e.g., Latvian Chamber of Crafts strived to achieve this by creating partnerships with regional VET schools and inviting students and staff to attend courses organized by LAK. LVT worked closely with companies to meet their needs regarding the training of their employees.

To effectively monitor continuous improvement and evaluate the impact and effectiveness of the CoVE activities, several mechanisms have been implemented, e.g., data collection including graduation rates, job placement rates, student and instructor feedback, enrolment numbers, assessment results, and other relevant information; program evaluation, e.g., regular evaluation of the curriculum and teaching methods to ensure they are up-to-date and meet industry standards. This involved input from industry experts and employers; a culture of continuous improvement within the Centre was promoted, e.g., professional development and training for staff.

To coordinate CoVE LV activities, monthly meetings were held with representatives from all organizations to discuss how to support each other and cooperate in the implementation of project tasks as well as possible improvements. Additional value was added by 3LoE partners' meetings and training activities which provided opportunity for learning, exchange of experience and networking.

Tasks performed by the COVE

Liepaja State Technical School, as the lead partner of the CoVE, coordinated and managed the implementation of activities. LVT confirmed that the programs have been executed according to plan and will be completed by autumn 2024. They assessed the CoVE's operations as satisfactory but noted that the frequent changes in project coordinators at LVT necessitated rescheduling several activities to meet the deadlines.

During the project lifetime, LVT implemented several Initial Vocational Education and Training (IVET) and Continuing Vocational Education and Training (CVET) programs. Additionally, they introduced teacher development programs aimed at enhancing skills and knowledge.

VET programs for students pursuing careers as auto mechanics and building technicians were enriched with essential green skills to meet current environmental demands.

Moreover, for professionals already engaged in electrician and construction worker roles, LVT introduced specialized CVET programs. These initiatives aimed to update and expand their expertise in line with evolving industry standards and technological advancements.

The Latvian Chamber of Crafts activities included the implementation of further education programs, specifically those offered by the 3LoE project. Some of these programs were similar to those LAK already implemented or at least covered the same themes. LAK admits that they have received very positive reviews from the trainees who participated in these programs.

The training provided by LAK included substantial practical work within companies, targeting professions such as carpenters, roof layers, blacksmiths, and chimney sweepers. Participants highly valued the opportunity to learn more about renewable energy, the green economy, and other relevant topics. They considered the practical training and the shared presentations on training outcomes to be the most interesting parts of the program.

Additionally, LAK successfully implemented programs for qualifying crafts journeymen and crafts masters. However, they expressed regret that these qualifications are not binding within the Latvian legal system.

LAK positively evaluated the autonomy they were given in choosing which programs to implement, finding this freedom essential for tailoring education to meet the specific needs and interests of their trainees. This flexibility allowed LAK to ensure that the programs they offered were relevant and engaging.

Looking ahead, LAK is enthusiastic about implementing several more programs from the 3LoE project. They believe these programs play a crucial role in promoting innovations within the VET sector. By introducing new teaching methodologies, integrating modern technologies, and focusing on contemporary issues such as renewable energy and the green economy, these programs are expected to enhance the quality and relevance of vocational training. LAK anticipates that these innovations will better prepare trainees for the demands of the evolving job market, ultimately contributing to a more skilled and adaptable workforce.

Riga Stradins University focused on the development of a professional bachelor's degree sub-program/module on Green Entrepreneurship and Innovation in close co-operation with other CoVE partners as well as partners from relevant industries.

In the development of new courses, the RSU considered the following five areas: (1) socio-economic situation and labour market needs in Latvia; (2) green entrepreneurship and innovation; (3) job-related training in EU and Latvia; (4) development of a bachelor's degree sub-program at the RSU and cooperation with business; (5) promotion of the program.

In the 3LoE project RSU implemented Green Entrepreneurship and Innovation program for LVT students and teachers as well as for those working in construction and energetic sector.

RSU also conducted research related to the green entrepreneurial developments. They have also published articles in prominent research journals and books.

The Ministry of Education and Science (MoES) is very positive about initiatives aimed at promoting vocational excellence. In Latvia's national key policy planning document, the Education Development Guidelines, vocational excellence has been identified as a top priority in VET. However, MoES has encountered some challenges in implementing this initiative.

One of the primary challenges is the absence of specific types or statuses for institutions participating in this initiative. This has made it difficult for MoES to convey to vocational schools that the focus is not on a particular status but rather on the quality of collaboration among different institutions involved in VET. The goal is to foster an environment where various VET providers work together to enhance the overall quality and effectiveness of vocational education.

In MoES's understanding, excellence should be inclusive, encouraging everyone to perform to the best of their ability. They emphasize that individual excellence involves each person and student reaching their highest potential. Institutional excellence, on the other hand, is closely linked to innovation.

Innovation is achievable only through close collaboration with universities, research institutions, and industries, preferably those involved in high-tech and state-of-the-art developments. These collaborations are vital as they can significantly contribute to both innovation and vocational excellence. By integrating cutting-edge research and industry practices into VET programs, institutions can ensure that their training remains relevant and forward-thinking.

International co-operation

LVT believes that the 3LoE project served as an excellent foundation for the establishment and operation of CoVEs. It not only provided a strong starting point but also facilitated valuable networking opportunities and the discovery of new partners for future projects. LVT particularly commends the work of the Polish and German CoVEs, considering them exemplary models from which other project partners can learn. According to LVT, these two CoVEs have successfully developed a structure that aligns perfectly with the original CoVE concept, demonstrating best practices in their implementation and operations. They have also considered further cooperation opportunities with some of the project partners, especially those who implement similar VET programs. At present LVT is cooperating in another Erasmus+ project with 3LoE project partner from Austria Institut für angewandte Gewerbeforschung der WIRTSCHAFTSKAMMER – IAGF.

During the project implementation, VISC collaborated with "t2i" – Technology transfer and innovation agency – the partner from CoVE Italy, to develop and submit a joint Erasmus+ project proposal. This proposal focused on the development of digital teaching and training materials aimed at VET and company tutors.

LAK highly values the international cooperation opportunities provided by the 3LoE project. These opportunities have allowed them to discuss common problems and exchange experiences at a chamber level, fostering a collaborative environment among participants from different countries and backgrounds.

LAK believes that the project could have been further enhanced by including more exchange visits. These visits are invaluable as they provide participants with firsthand insights into how vocational education is implemented in other countries.

Through exchange visits, participants can observe different teaching and administrative practices in various international settings. This exposure would allow them to gain a broader understanding of global best practices and innovative approaches in vocational education. It also fosters cross-cultural learning and collaboration, enabling participants to bring back new ideas and strategies that can be adapted and applied within their own institutions.

LAK is convinced that increased exchange visits would not only enrich the learning experience for participants but also contribute to the overall improvement of vocational education systems by integrating successful elements observed abroad.

LAK foresees using the expertise and resources of relevant project partners to further enrich their programs. They plan to organize guest lectures and masterclasses, drawing on the knowledge and experience of international experts. This will not only enhance the learning experience for their trainees but also provide them with diverse perspectives and advanced skills.

Furthermore, LAK looks forward to adopting the idea of a summer school, which has been successfully implemented by some 3LoE project partners. The summer school concept will offer intensive, hands-on training sessions during the summer months, allowing participants to immerse themselves in specific topics and develop practical skills in a focused setting.

Long-term continuation and plans for the future

LVT, LAK and RSU agree that 3 level CoVE initiative is worth continuing, However, they believe that to fully capitalize on its potential, participating institutions should cultivate greater shared interests. In their opinion, the CoVE should encompass institutions implementing programs for similar qualifications. For example, Riga Technical University would be an excellent CoVE partner in the future by providing third-level education for LVT graduates. This partnership would not only offer a seamless educational progression for students but also foster collaboration with involved companies to boost innovation. By aligning their programs and objectives, these institutions can create a more cohesive and effective network that enhances vocational excellence and meets the evolving needs of the industry.

LVT believes that, without concrete political decisions regarding the future of the Centres of Professional Excellence, there is currently no need to change the Centre's status. The Center will continue implementation of 3LoE VET programs and involve new partners which could bring added value to the CoVE operation.

All CoVE partners unanimously agree that international cooperation with other Centres of Vocational Excellence should be continued. They recognize that such collaboration introduces new ideas and perspectives, which are invaluable in enhancing their current initiatives. By engaging with international CoVEs, they can share best practices, learn from each other's experiences, and drive continuous improvement in their work.

MoES is dedicated to promoting a culture of continuous improvement and excellence within vocational education, understanding that this requires a concerted effort from all stakeholders involved. They are actively encouraging VET institutions to embrace collaborative approaches and innovative practices, which are essential for achieving vocational excellence and preparing students for the demands of the modern workforce.

MoES is doing as much as it can to promote vocational excellence. However, there is no specific funding allocated for this initiative. Consequently, efforts to promote vocational excellence rely heavily on individual initiative and persuasion rather than being part of a systematically funded policy. This reliance on ad-hoc initiatives poses a significant challenge.

MoES believes that for vocational excellence to be truly effective and sustainable, it needs to be supported by dedicated financial resources. Without earmarked funding, the initiative lacks the stability and structure necessary for long-term success.

MoES consider the 3LoE project to be an excellent pilot of the operation of Centres of Vocational Excellence and support further development and implementation of vocational excellence.

Conclusion

The 3LoE project offered practical experience in operating 3-Level Centres of Vocational Excellence, giving participants a comprehensive understanding of the day-to-day functions and challenges of such centres. Through hands-on involvement, participants gained valuable insights into best practices and innovative approaches to enhance the performance and impact of these centres. This experience not only highlighted areas for improvement but also underscored the importance of collaboration, adaptability, and continuous learning in running successful vocational excellence centres.

An important role in the operation of CoVE plays international cooperation. This collaboration facilitates the exchange and implementation of innovative solutions and the adoption of best practices from partners. For example, CoVE benefits from already piloted VET programs developed by its international partners. This exchange not only enhances the quality and effectiveness of CoVE's initiatives but also ensures that they remain at the forefront of educational advancements and industry standards.

The Ministry of Education and Science believes that dedicated financial resources are crucial for the true effectiveness and sustainability of vocational excellence initiatives. Without earmarked funding, these initiatives lack the stability and structured support necessary for long-term success. Securing consistent and targeted financial backing will ensure that vocational excellence centres can innovate, and continuously improve, ultimately benefiting students, industries, and the broader economy.

6.44 Lithuania³

This report is prepared based on the interviews with the representatives from three CoVE Lithuania partners: Business and Hospitality Vocational Career Centre (Verslo ir svetingumo profesinės karjeros centras) – VESK; Panevezys Chamber of Commerce, Industry and Crafts (Panevėžio prekybos, pramonės ir amatų rūmai) – PCCIC; Panevezys University of Applied Sciences (Panevėžio kolegija – PANKO and associated partner – Lithuanian Hotels and Restaurants Association (Lietuvos viešbučių ir restoranų asociacija) – LHRA.

Partner structure

The Centre of Vocational Excellence Lithuania is established as a cooperative network consisting of 3 different institutions: VESK, PCCIC, and PANKO.

VESK is the coordinator of CoVE Lithuania and one of the largest vocational training centres in Lithuania, providing education, initial and continuing training, non-formal education and vocational rehabilitation services, taking into account the ever-changing situation on the labour market and the expectations of society. The Centre has established close networking links with employers and local industry, which ensure that the courses prepare students for the careers they intend to pursue.

PCCIC is another CoVE partner which acts as a cooperating body for vocational education at EQF Levels 3 – 6, carrying out vocational trainings and further trainings, examinations, consultations, and in particular representing SMEs, advising and integrating them as training partners for dual education.

PANKO – a higher education organization which implements dual Bachelor programmes and innovation projects for SMEs at EQF Level 6 is the third CoVE LT partner. They also participate in the development of curricula and new learning methods, provide lecturers, trainings for teachers and managers of VET schools, etc.

COVE structure and cooperation

CoVE LT is active in all three levels – IVET, CVET and HE and operates in the regions of Vilnius and Panevėžys, where it builds skills ecosystems conducive to innovation, regional development and social inclusion, as well as interacts with centres in other countries through international cooperation networks.

The CoVE LT has established a well-defined governance structure that outlines roles, responsibilities, and decision-making processes for all stakeholders involved in the CoVE, which ensures smooth coordination. The cooperation agreement has been signed by all three partner organizations.

³ Prepared by Valsts izglītības satura centrs (National Centre for Education), Latvia

All three CoVE LT partners agree that the chosen structure of CoVE is perfectly suited for implementing the planned project tasks and for ensuring the continued operation of the Centre after the project concludes. They see significant added value in their prior collaborative experience, as all three institutions have previously worked together on other projects. In working on this project, they have discovered new areas of mutual collaboration that they had not previously considered. This established working relationship is the primary reason why the coordination of project tasks proceeded smoothly and adhered to the timeline. PCCIC believes that the 3LoE project has contributed to their growth as institutions, as education providers, and as individuals.

To maintain progress and ensure that everyone remained on the same page, regular coordination meetings were organized. These meetings played a crucial role in facilitating communication, addressing any issues promptly, and making necessary adjustments to keep the project on track. The familiarity and mutual understanding among the partners fostered a productive environment, where tasks were efficiently managed, and project goals were consistently met. PCCIC mentioned that during the project, the CoVE lead partner was always there to help whenever needed. This dependable support helped quickly solve any problems, making the project run more smoothly and encouraging teamwork.

Initially, the primary issue that hindered cooperation between VESK and PANKO was their representation of distinct sectors, which made it challenging to identify common points of interest and interaction. VESK was oriented towards the HoReCa (Hotel, Restaurant, and Catering) and health sectors, while PANKO focused on business and technologies. This sectoral divergence created a significant barrier to collaboration.

However, this challenge was effectively addressed by identifying alternative points of common interest. For instance, PANKO provided Continuing Professional Development courses for VESK teachers, which not only enhanced the professional skills of the VESK staff but also fostered a collaborative relationship between the two institutions. Additionally, PANKO offered methodological devices that further supported VESK's educational initiatives. By leveraging these shared interests and resources, VESK and PANKO were able to establish a productive and cooperative partnership despite their initial sectoral differences.

The need for additional partners was discussed among all three CoVE partners, and the decision was to engage new collaborators as needed. For example, in program implementation, PCCIC worked also with two other VET schools outside the project because they were geographically closer. Due to sectoral differences among partners, VESK required additional partners to cover all necessary tasks comprehensively. To address this, CoVE LT initiated a collaboration with the Lithuanian Hotels and Restaurants Association. As a result, the LHRA became an associated partner, contributing their expertise and resources to the project.

LHRA rates CoVE as a positive initiative and considers that it brings innovation not only to the region but country wide and provides the potential for changing economic

conditions and supplying the skilled work force. It also builds the bridge between the world of work and vocational school.

CoVE LT enrolls students in dual education programs, which necessitates a close partnership with various companies to ensure practical, hands-on learning experiences. To facilitate this, CoVE LT collaborated with companies they had previously worked with, leveraging established relationships to provide consistent and reliable opportunities for their students. Additionally, CoVE actively sought out and engaged new companies, expanding their network and creating a broader range of internship and training opportunities to benefit their students.

Asked about negative aspects, partners find it challenging to pinpoint specific issues directly stemming from the collaboration. However, PANKO identifies that many of the challenges they faced were closely linked to the ongoing restructuring of the education sector in Lithuania. This restructuring has introduced a significant degree of uncertainty and continuous change, which sometimes restricts the scope and opportunities for long-term projects.

Due to these reforms, there is often a lack of clarity regarding regulations, policies, and future directions within the education sector. This unpredictability can make it challenging to plan and execute long-term initiatives effectively, as project parameters may need to be frequently adjusted in response to the evolving educational landscape. The constant changes can lead to disruptions in project timelines, create obstacles in resource allocation, and necessitate ongoing revisions to project strategies. Consequently, the partners must remain adaptable and resilient, continually navigating these challenges to achieve their project objectives.

Tasks performed by the COVE

Activities of Lithuanian CoVE cover the following sectors: engineering technologies, construction, utilities, tourism, food industry, health care and social assistance, hospitality, beauty services, IT, education, etc. The focus areas are green skills, entrepreneurship, emerging technologies, digital skills and dual education.

CoVE LT considers introduction of dual apprenticeship training in VESK and dual bachelor programs in PANKO a success. These programs were piloted and turned out to work very well so the piloted parts were introduced in other ongoing programs and students in certain study blocks will do their apprenticeship in a company. PCCIC role in this activity was to assist VESK and PANKO in finding suitable companies for the students. At the end of the training VESK also carried out their inner evaluation and over 90% of students evaluated it as a very good program and positive feedback was received from employers, too.

In addition to this, VESK has introduced Continuing Professional Development programs for all teachers working at the school. These programs are crucial for maintaining and enhancing the teachers' professional skills and knowledge. Some of the CPD programs are delivered by colleagues from PANKO, while others are

conducted by various external providers. The CPD training sessions are held regularly and are compulsory for all teachers, ensuring that the faculty remains up to date with the latest educational methodologies and industry developments. This commitment to ongoing professional development underscores VESK's dedication to providing high-quality education through a well-trained and knowledgeable teaching staff.

Partners are of the opinion that overall, the implementation of the CoVE tasks proceeded smoothly, albeit with some additional effort required when collaborating with educational authorities to formalize specific VET programs. Recognizing the potential challenges in navigating formal education frameworks, VESK opted for a non-formal education approach. This decision was driven by the desire for increased flexibility and autonomy in program development and delivery. As a result, VESK perceives the execution of training programs as less effective, primarily attributing this to their non-formal educational nature.

Although CoVE LT carried out numerous activities in cooperation, there were also activities implemented by one or two of the CoVE partners, tailored to their specific fields of operation. This allowed for a more focused and specialized approach, ensuring that each partner could leverage their unique expertise and resources effectively. For instance, VESK dedicated significant time and resources to advancing the initial 3LoE green concept, elevating it to a new level. They started with the development of a comprehensive module on sustainability, which has been integrated as a mandatory component in all their training programs. This ensured that every student received essential education on sustainable practices, preparing them to contribute to environmentally responsible sectors.

Then VESK continued with conducting short training sessions to help everyone understand the principles and importance of a green economy. Yet, there was a recognition of the necessity for deeper and more profound and comprehensive changes in the day-to-day operations and lifestyle at VESK to fully embrace these principles.

To this end, VESK began implementing a short supply chain system, emphasizing local sourcing and sustainability. One of the most notable changes was the initiation of growing their own vegetables on campus. In addition to its focus on local sourcing, VESK also prioritizes effective waste management practices. To address this concern, VESK has implemented innovative smart composting units on its territory. These units are specifically designed to handle the waste generated from the culinary laboratories. Instead of discarding organic waste, such as vegetable peels and food scraps, into traditional waste bins, these materials are diverted to the smart composting units.

Recently, VESK achieved certification with ISO 14001, a globally recognized standard for environmental management systems. This certification serves as a testament to VESK's commitment to implementing effective environmental practices and reducing its ecological footprint. VESK considers that this achievement is not merely a recent

development; rather, it is the culmination of a journey that began four years ago with the initiation of the 3LoE project.

PCCIC main task was implementation of continuous training programs tailored for various companies. While the training programs developed by the 3LoE project served as the foundation, PCCIC customized these programs to meet the specific needs of each company and to align with the local context. Recognizing that companies were not interested in programs spanning several months, PCCIC made significant adjustments by shortening the duration of these training sessions. This approach ensured that the training was both relevant and manageable for the companies, enhancing their engagement and maximizing the impact of the training. By doing so, PCCIC was able to provide valuable and practical learning experiences that were better suited to the operational realities and time constraints of the businesses they served.

PCCIC also played an important role in supporting the implementation of dual apprenticeship training by acting as a mediator between IVET and HE institutions and companies. Their responsibilities included explaining to companies the significant benefits of prolonged work practice for apprentices, such as improved skill acquisition and job readiness. PCCIC worked to convince companies to engage in the dual apprenticeship model by highlighting how it could meet their needs for skilled labour, reduce recruitment costs, and ensure a workforce that is well-trained and aligned with their specific operational practices.

PANKO contributed to lifelong learning by offering continuous training and upskilling opportunities tailored to the specific needs of various industries. These training programs were designed to enhance the skills of the workforce, contributing significantly to regional development and improving employability. By aligning their offerings with industry demands, PANKO ensured that individuals can continuously develop their professional skills and adapt to changing market conditions.

Additionally, PANKO actively promoted industry-school collaboration through various initiatives such as specialized training programs, shared resources, and apprenticeship opportunities. One notable achievement is the renewal and launch of the "Electrical and Automation Equipment" degree program in 2023. This program, along with an upgraded Business Management program, was implemented as part of the project framework. Furthermore, PANKO has introduced and integrated new study modules focusing on critical and emerging areas such as "Fundamentals of the Circular Economy," "Waste Management Technologies," "Governance and Technologies for the Circular Economy," and "Sustainable Economic Management." These modules have already been completed by over 60 students.

PANKO also emphasized the promotion of sustainable business start-ups, encouraging innovation and entrepreneurship aligned with environmental and social sustainability goals. To better meet the needs of industries, PANKO has extended the duration of practical training components within their programs. This extension has

been well received by industry partners, as it allows students to gain more in-depth, hands-on experience, thereby enhancing their readiness for the workforce.

As PANKO is engaged in providing vocational training, they place a high value on collaboration with the Chamber. This partnership has yielded significant benefits, enabling the university to extend the duration of practical training and integrate numerous practical tasks directly into the course curriculum. By working closely with Chamber, University ensures that their training programs align closely with the needs and expectations of the industries they serve.

Another important aspect is the continuity of studies facilitated by PANKO. Graduates of the vocational school have the opportunity to transition into higher university courses, ultimately earning a higher education diploma. This pathway provides a clear and accessible route for individuals to further their education and expand their career prospects.

The Lithuanian Hotels and Restaurants Association as an associated partner, also made significant contributions to CoVE LT, particularly in curriculum development for VESK students. Leveraging their deep industry insights and expertise, LHRA helped to develop and update the vocational curriculum, ensuring it met current industry standards and anticipated future needs. They provided valuable data and analysis on emerging trends, technologies, and skills gaps within the industry, which guided CoVE LT to concentrate on the most relevant and pressing areas for vocational training.

Additionally, LHRA played a pivotal role in facilitating connections between VESK and various businesses, enhancing opportunities for apprenticeships and job placements for students.

Moreover, LHRA collaborated closely with VESK to organize several sessions and short training programs where industry professionals were invited to share their knowledge and experiences with students. These sessions provided students with first-hand insights into the industry, exposing them to real-world scenarios and best practices. This collaboration not only enriched the educational experience but also helped to better prepare students for successful careers in the sector.

International co-operation

One of the 3LoE project tasks is to foster international cooperation, mutual learning, and the exchange of best practices among educational institutions and industry partners. This initiative aims to create a collaborative environment where partners can share knowledge, experiences, and innovative strategies to enhance vocational education and training. CoVE LT partners highly valued the peer-learning opportunities and train-the-trainers' workshops.

As the project evolved, it provided opportunities to establish contacts with new partners from other countries and discover common grounds of interest, which had been challenging within the framework of CoVE LT due to the diverse sectors represented by the partners. CoVE LT established good working collaboration with 3LoE project

partner from Austria Institut für angewandte Gewerbeforschung der WIRTSCHAFTS-KAMMER - IAGF. Austrian colleagues acted as guest lecturers and provided master classes for those involved in cooking programs. These master classes offered an invaluable opportunity to students and teachers learn from experts, gain new culinary skills, and expand their knowledge in their chosen field. This collaboration not only enhanced the students' educational experience but also strengthened the partnership between the institutions. Both IAGF and VESK are looking forward to the continuation of this cooperation. They recognize the significant benefits that have arisen from their collaborative efforts, including enhanced educational opportunities, shared expertise, and strengthened institutional relationships.

CoVE LT has also started discussing expanded opportunities for cooperation with the project partner from Pomeranian University in Słupsk, Poland.

Long-term continuation and plans for the future

CoVE LT partners agree that 3LoE project was a good opportunity to try out the practical implementation and operation of Centres of Vocational Excellence. They also consider that the well started and piloted initiative of 3 Level Centres of Vocational Excellence should be sustained and continued. However, they acknowledge that significant changes need to be implemented to continue running the CoVE in future.

To ensure the continuity of IVET, CVET, and HE program implementation, it is crucial to achieve alignment across various sectors of the economy. Currently, the programs offered by CoVE partners span different economic sectors, which leads to a lack of cohesion. Establishing a unified approach will facilitate a seamless transition between different levels of vocational and higher education, creating a more integrated and efficient educational system that better meets the needs of both students and the labor market.

Another reason to seek additional CoVE partners is to sustain the implementation of dual vocational training in both IVET and HE. While PCCIC helps schools in finding companies for this purpose, involving more associations in CoVE will better ensure the availability of necessary work placement opportunities for students.

CoVE LT partners are sure that the existing three level CoVE structure should be sustained, and no other form is necessary as it has proven to work well.

Establishing and maintaining a CoVE requires significant financial and human resources. It will be necessary to look for funding mechanisms after the 3LoE project ends.

Conclusion

The 3LoE project provided an opportunity to put into practice the operation of Centers of Vocational Excellence across various educational tiers, including initial vocational education and training, continuing vocational education and training, and higher education. This practical implementation not only enhanced the partners'

understanding of the operational aspects of CoVEs but also provided valuable insights into how to tailor CoVEs to meet the diverse needs of learners at different stages of their education.

To successfully establish and operate a Center of Vocational Excellence, securing policy-level support is paramount. Without the active involvement and endorsement of education authorities at the regional or national level, the initiative is likely to remain localized and face significant challenges in terms of sustainability and scalability. Policy-level support provides legitimacy and institutional backing to the CoVE, signaling its importance within the broader education framework and ensuring alignment with educational goals and priorities. Moreover, education authorities can provide crucial resources, funding, and regulatory guidance necessary for the effective functioning of the CoVE. Additionally, policy-level support can facilitate collaboration and partnership opportunities with other educational institutions, industry stakeholders, and government agencies, enhancing the CoVE's reach, impact, and relevance.

4.5 Italy⁴

Partner structure

Three partners have founded CoVE Italy. The coordinator is Emilio Sereni, based in Rome, a public agricultural school at the first level of the CoVE (NQF 3 and NQF4), which reports directly to the Ministry of Education Management.

Also based in Rome is the SFC, a training institution at the second level of the CoVE (NQF5 and Continuous VET), as well as a labor market actor focusing on manufacturing such as wood & furniture, chemicals, and every economic sector. SFC is the national vocational provider of Confindustria.

The third partner, Trasferimento Tecnologico e Innovazione Scarl, or t2i for short, is based in the Italian region of Veneto. As a technical agency of the Chamber of Commerce of the Veneto region, it supports companies - primarily in the private sector - in developing innovations. Its main objectives are training activities, start-up activities, and incubators.

COVE structure and cooperation

“I see the free choice and form of the cooperation model for this CoVE as an advantage because it makes it possible to act nationwide.”

Based on the three very active and multifaceted partners mentioned above, CoVE Italy was created, which now has a large network and many other associated partners to commonly develop innovative educational measures at all three center levels in the field of the green economy. CoVE Italy is going into depth and driving forward its

⁴ Prepared by Institut für angewandte Gewerbeforschung der Wirtschaftskammer Österreich

activities in the field of sustainable development and the circular economy, for example through cooperation with the newly acquired Associated Partner UniSMART: UniSMART is the foundation of the University of Padua, which was established to promote technology transfer and postgraduate education.

Through its Unit Academy, it supports the promotion and management of the University of Padua's Master's degree programs and courses and the "Lifelong Learning" training courses, providing all the necessary technical and administrative support. In article 1, paragraph 2 of the Statute, the University of Padua undertakes to "promote the development of a culture based on universal values such as human rights, peace, environmental protection, and international solidarity", with environmental issues playing a central role and being constitutive of its activities.

The University of Padua, reference body of the Foundation under art. The University of Padua, which acts as the Foundation's reference body by Art. 1.2 of the Statute, has also adopted its own "Charter of Sustainability Commitments", divided into five lines of action in the various areas in which environmental sustainability is expressed, and participates annually in the "Festival for Sustainable Development" promoted by the Italian Alliance for Sustainable Development (ASviS) for the joint development of a cultural and economic background that enables the implementation of the United Nations 2030 Agenda and the achievement of the 17 Sustainable Development Goals at national level. - Possible objectives of cooperation with the CoVE include:

- Creation of dual study programs.
- Ensuring the exchange of information and experience, written and electronic knowledge, and technology transfer for SMEs in the form of meetings, information and training courses, group coaching, etc;

Promoting innovation for SMEs and carrying out research and development activities in and with SMEs.

Another partner is ESEV-CPT, an institution jointly managed by the University of Construction and the trade unions of construction workers in the province of Verona. This - VERONESIAN CONSTRUCTION TRAINING SCHOOL AND THE TERRITORIAL JOINT COMMITTEE FOR ACCIDENT PREVENTION, HYGIENE AND WORK ENVIRONMENT OF THE PROVINCE OF VERONA, or ESEV for short - aims to provide initial training initiatives for young people entering the sector, young people entering the sector, as well as to promote, organize and implement initiatives for further training, qualifications, retraining, specialization or updating for "their" workers, administrative staff, technicians and managers. A further interface with CoVE Italy with the ESEV-CPT can be created at EQF level 3: ESEV manages and coordinates the three-year qualification period for construction workers at this level.

"CoVE Italy has enabled us to work together with different chambers. We hope that this will give us greater strength, assertiveness and reach - in other words, to be able to put out feelers even more for new partners and expanded networks."

The Sant'Anna School of Advanced Studies (SSSA), a public university with a focus on applied sciences, including economics, law, political science, agricultural sciences, medicine, and engineering, is also contributing its expertise in the field of sustainability and the green economy. - SSSA's departments include the Interdisciplinary Research Center for Sustainability and Climate, a transdisciplinary research area that operates in the social and experimental sciences. The Center promotes research, teaching, and the development of innovative solutions to issues of sustainability and the urgent challenge of climate change. The SuM - Sustainability Management Laboratory cooperates with the SFC as part of the 3loE project. The Sustainability Management Laboratory (SuM Lab) combines business and policy knowledge with the principles of sustainability through scientific research and empirical studies in the following areas: Circular Economy and Natural Capital (CENC); Energy and Resource Efficiency (ERE); Life Cycle Thinking (LCT); Corporate Social Responsibility and Resilient Communities (CSR); Environmental Management and Industrial Symbiosis (EMIS); Climate Change and Decarbonization (CLIMA).

Then, there is CIS, the company of the Reggio Emilia business association (Unindustria Reggio Emilia) that has been designing and developing business management services for almost 40 years. The CIS Business School delivers different paths related to the main business areas (General Management, Innovation, HR, Marketing and Sales, Operation, Purchasing, Sustainability and ESG, Strategic Planning). Their projects are designed and implemented for the growth and development of people's skills, to keep pace with a constantly evolving global market.

ANCE is a business association representing Italian companies of all sizes operating in the construction industry. Their objective is to promote policies that combine the entrepreneurial skills of the construction sector with the interests and needs of civil society, aiming at Economic, Social, and Labour Growth; Energy-Environmental Sustainability; and Country well-being.

ANCE fulfills the task of representing the industry in institutional bodies, protecting its interests, and cooperating with the government, parliament, national institutions, and other social partners.

ANCE's objective is to contribute to the economic growth of the sector, to employment, and to the development of an advanced system that allows the country to face the increasingly demanding challenges of the global market.

The Test Training for Trainers in SMEs could successfully be carried out with Fondazione ITS Meccatronico del Lazio. The Foundation runs the Istituto Tecnico

Superiore della Meccatronica del Lazio, which awards the Mechatronics Technician qualification recognized as an EQF 5 qualification.

The foundation represents the dual model for mechatronics in Italy and aims to integrate and improve the technical-practical preparation of new graduates, through in-depth theoretical and technical studies and, above all, by carrying out numerous hours of company internships, to acquire and/or improve skills in the field.

The numerous presences of experts from the world of work contributes to testifying the level of in-depth and up-to-date training content, also through the testimonies of company operators and case studies, thus making available the experiential, technical, and specialized training capacity of companies.

The Department of Agricultural and Forestry Sciences (DAFNE) at the University of Tuscia is a renowned center of excellence for both teaching and research, with a strong emphasis on sustainability, climate adaptation, and food safety. Equipped with state-of-the-art facilities and deeply rooted in the regional context, DAFNE spearheads cutting-edge projects such as "SAFE_Med" and "D.I.Ver.So." The department holds a prominent international standing and plays a significant role in contributing to Italy's National Recovery and Resilience Plan (PNRR) and various European Union initiatives. Its commitment to innovation and education positions DAFNE as a leader in addressing global agricultural challenges.

“As associate partners, we contribute our extensive expertise in advanced agricultural research and innovation, offering insights into the latest trends and technologies shaping the sector. Our role is to ensure that the CoVE remains at the cutting edge of agricultural education, equipping students with the knowledge and skills needed to thrive in a competitive workplace. The cooperation has been highly productive, marked by dynamic exchanges of ideas and effective collaboration on various projects. We view our partnership as a resounding success, with mutual benefits that enhance both our research endeavors and the educational outcomes of the CoVE.”

DAFNE actively collaborates with CoVE Italy on educational initiatives aimed at familiarizing students with the latest innovations and, most importantly, precision agriculture and sustainable farming practices. A collaborative approach has proven successful in preparing the next generation of agricultural professionals.

“The success of these initiatives is reflected in the positive feedback from students, who have not only gained valuable knowledge but are also very satisfied with the quality and relevance of the courses.”

Latuaideadimpresa® is the business game that takes students to create business projects and become real startupper. Conceived in 2010 by Noisiamofuturo® and promoted together with Sistemi Formativi Confindustria, partner Umana. - All students are offered training modules and the publication of their projects (business plan + video) on the latuaideadimpresa.it platform where Italian entrepreneurs view and vote on the students' work. The best projects, winners of the territorial stages, compete at

Festivaldeigiovani® where a jury of entrepreneurs proclaims the national winner and awards special prizes.

Tasks performed by the COVE (tasks of the COVE)

All the objectives set could be solved and implemented within the CoVE” - and this at all 3 levels of the 3LoE project from the first center level within WP3 to the third center level “Higher Education” within WP5, such as the implementation of an ‘Advanced course at EQF level 4 for skills and innovation in the agriculture/agro-food industry’ or the ‘Continuing vocational training’ ‘Animal Welfare for a Better Future’, ‘Techniques of Organic Farming’, ‘Use of drones in Agriculture’ or ‘Vertical Farming’.

“The main advantages were the possibility to benefit from excellent training programs on sustainability issues, which were then adapted to the needs of the local context in which we operate.”

Further Training and Test training in the area of sustainability were carried out by the CoVE within the cooperation of its Associated Partners such as in “Fundamentals of the Circular Economy”, “Cradle to Cradle in SMEs”, “Enterprise and Entrepreneurship in Green Economy”, “Energy Service Manager” or in “Preparation and Management of SMEs for Work in Green Economy” and much more.

In addition to many other measures (easy to find in the final report), the following were successfully implemented as part of WP4: Training I for SMEs: Energy Efficiency and Renewable Energies as well as of two EQF5 courses “GPP – Green Public Procurement” and “Industrial Symbiosis” as well as a Lean Management in the Building Sector.

Manageable R&D Projects for SMEs were as well conducted as modules for higher education tested, i. e “Management & technologies of the circular economy” or “Management of sustainable economic activity”.

Examples of successful dissemination by CoVE Italy include the presentation of the 3LoE project at the “Job Orienta Verona”, the “Didacta Meetings Florence” and at an event with the Minister of Education.

Now that the training measures have been successfully implemented, the company is also considering making them available to other CoVEs:

“For some activities that came up for the 3LoE project, we can propose them to other CoVE, e.g. all training courses of the 3LoE addressed to the building sector can be promoted to the 3LoE project.”

International cooperation

Exchange, networking, finding a common language, and going beyond one's boundaries - these were the main interests of CoVE Italy that should and could be realized within the framework of this project!

CoVE Italy initially operated primarily on a regional basis, but as part of the project, it was also able to expand its innovative measures nationally in Italy and maintain an international exchange with the project partners.

“Among the project's outcomes, in addition to a strengthening of internationalization, there was also a fruitful synergy between national funding sources for training accessed client companies and the 3LoE project, which amplified the results and gave the implementation of the training programs an international reputation and ultimately greater solidity and credibility.”

“It was of great interest to us that we had the opportunity to join a large network of transnational partners, both operationally and as a network, which gave us a broad exchange of experience and the opportunity to implement good practices for our own company at the end of the project.”

“... it was a valuable opportunity to exchange views with other training providers on strategic issues and to consolidate an international positioning in the field of continuing education.”

“Among the many things we learned, for example, we learned from our colleagues from Hamburg, the German colleagues, a methodology we tested on Veneto territory, it's called Kain Method, a methodology for training that in short, to put it simply, it allows getting inside organizations in general, so we experienced it both at the level of students, but above all with businesses.”

The work continues and the successful exchange is to be continued, both nationally and internationally. A national CoVE hub is already being considered.

Long-term continuation and plans for the future

The desire for a continuation - even after the end of the project - was clearly expressed several times:

“In the long term, the cooperation is to be continued and also deepened.”

“The inclusion of new partners is also conceivable. For example, if the University of Milan is interested in collaborating, it could become part of CoVE Italy.”

“To ensure the continued relevance and effectiveness of vocational education, it is essential that these programs remain flexible and responsive to the fast-paced changes in the agricultural sector. We suggest a greater focus on interdisciplinary approaches combining traditional agricultural knowledge with emerging fields such as digital agriculture, biotechnology, and environmental management. Additionally, strengthening partnerships with international institutions could provide valuable perspectives and enhance the global competitiveness of our vocational education system. For the CoVE in particular, ongoing engagement with industry stakeholders and the incorporation of their feedback into curriculum development will be critical for maintaining its leading role in vocational training.”

The future success of the CoVE will also be linked to a targeted focus on specific topics:

“Looking ahead, the future development of the CoVE should prioritize areas with the highest growth potential, particularly in the integration of innovative technologies and artificial intelligence (AI) in agriculture. These areas represent the frontier of agricultural advancement and will be crucial in addressing future challenges such as food security, climate change, and resource management. Ensuring that the CoVE remains a leader in these domains will require continuous investment in cutting-edge research and the development of specialized training programs.”

“Another advantage is that this project not only established these CoVEs at the local level but that there was and hopefully will continue to be the opportunity to work at European level.”

“So the challenge was to find common languages in a rather complex context because goals are easier to train than languages, but also specific activities to continue.”

“Another advantage is that this project not only established these CoVEs at the local level but that there was and hopefully will continue to be the opportunity to work at the European level.”

“So the challenge was to find common languages in a rather complex context because goals are easier to train than languages, but also specific activities to continue.”

“So it's a challenge that we were able to overcome and that we hope we can continue to overcome in the future.”

Conclusion (and Recommendation)

In principle, CoVE Italy can be seen as a great success on several levels, e.g. in terms of the goals achieved, the input on the region, the expansion of cooperation, and the implementation of various training measures from the regional to the national level, as well as a successful international exchange and knowledge transfer, keyword Kain method to name a concrete example.

“In summary, thanks to this project, we can offer companies targeted products that have been tested and validated at European level.”

“The establishment of a Center of Vocational Excellence (CoVE) in our region is a significant step forward, presenting numerous opportunities for regional growth and development. The CoVE enhances the quality of vocational training, ensuring that young professionals are well-prepared to become key contributors to the agricultural sector. Among the positive aspects, we particularly appreciate the emphasis on innovation and the practical experience of hands-on training courses provided to students. This initiative helps bridge the gap between academic knowledge and industry requirements.”

“The current cooperation model is highly effective, fostering a collaborative environment that benefits all parties involved. The synergy between academic institutions, industry partners, and vocational training centers has created a robust framework for innovation and education. We see no need to alter this model; instead, we recommend building on its strengths, particularly by expanding the networking activities to further enhance its effectiveness.”

The relatively loose structure of a “Cooperation Agreement” was seen as an advantage, as this system allows a high degree of flexibility, as well as the ability to remain open to new partners and projects and at the same time to continue successful, newly acquired collaborations.

4.6 Poland

All interviews were recorded (after the interviewees had given their consent) and transcribed using a free Word transcription tool (AI). The voice recordings are available. The results of the interviews can be summarized as follows.

Partner structure

The Polish partner structure consists of the Mechanical and Logistic Schools Complex named after engineer Tadeusz Tański, a VET school (Zespół Szkół Mechanicznych i Logistycznych im. inż. Tadeusza Tańskiego w Słupsku), the Pomeranian University in Słupsk and the West Pomeranian Chamber of Crafts and Entrepreneurship in Szczecin. It is worth noting that the Pomeranian University in Słupsk obtained its university status on 1.06.2023 (before this it was listed as an Academy).

The Polish CoVE is coordinated by the VET school, the Mechanical and Logistic Schools Complex.

Cooperation institutions:

- Association of Polish Mechanical Engineers
- Vocational School in w Kamiennym Moście (level 1)
- Vocational School in Maszew (level 1)
- Board of Education in West Pomerania
- City of Słupsk
- Markos - producer of composite materials including rescue, life and pleasure boats, partner in dual Bachelor Degree Program
- Chamber of Commerce in Słupsk
- Słupsk Municipal Services Office
- Słupsk Water and Sewage Treatment Facilities
- Słupsk Chamber of Industry and Trade

COVE structure and cooperation

Establishing a COVE and the cooperation within the Polish COVE is positively assessed by the partners.

(CoVes are ...)Perfect for vocational education, I cannot imagine a vocational school without cooperation with employers because it is our statutory obligation to educate for the needs of the labor market and respond to their needs and cooperate with the university. This is a logical consequence of our work, and we educate at the secondary school level in cooperation with employers and the university, because they also support us and later our students can continue their education at the University or other universities in general because, as we discussed, this system could be introduced throughout Poland that every school is obliged to cooperate with universities in this way.

The operation of the CoVe opened up a communication gateway between schools, SMES and higher education.

What I really liked was that in the end entrepreneurs started talking to science.

The CoVE allowed the VET school and the University to develop permeability (the ecologistics technical secondary school program and the Green Logistics university study program)

The structure allowed the VET schools and the Chamber to develop and conduct pedagogical trainings, which ended in official certifications. The demand was so high that two editions were organized.

What has changed for the better is that enterprises and entrepreneurs have finally understood that it is up to them to educate future employees.

Apart from project activities, practical benefits, the CoVE partners had the opportunity to participate in a CoVE structure, which is a novel concept in Poland.

A lot of effort was dedicated to understanding how dual studies should look like in Poland on the university level (legal requirements, employee / employer / university contracts etc.). The University of Słupsk had to reach out to the Ministry of Education and to one of few higher education institutions in Poland that focus on dual higher education, in order to obtain an overview as it is not openly available on a national level.

CoVE empowerment was a phrase that is worth mentioning; certain institutions (e.g. universities) are more independent in their decision-making process while other institutions (vocational schools) are dependent on the Municipality/City council and need to go through a long decision-making process which may impede CoVE durability (commercial activities).

One of the bottlenecks that was mentioned was the rigidity of study programs. Higher education study requirements in Poland may be strenuous for dual study students, an example of this is a required number of hours of Physical Education classes that must

be included in all study programs. More flexibility / modular programs would be beneficial for dual programs.

Overall, the CoVE cooperation is considered to have been beneficial with regard to institutional cooperation, cooperation, mutual effort and organization set-up.

This is what should happen, i.e. organizations associating enterprises, yes, business, university, vocational school, chamber of crafts, in fact, what we have here (note: CoVE) is very similar, all of these pieces complement each other beautifully.

Tasks performed by the COVE

In general, I assess the project very positively, especially when it comes to improving employee qualifications and developing training opportunities in our companies.

Some of the tasks performed by the CoVe include:

- Dual bachelor's degree Studies – 7 employees simultaneously work at Markos and study at the University of Słupsk. This novel approach is one of very few examples of a dual bachelor's degree Program being carried out in Poland
- Pedagogical courses for SME employees, the demand was so high that a second edition was organized. The VET school trained the participants, and the Chamber provided certifications (only Chambers in Poland are allowed to provide certifications for this type of course). 20 participants in the first training and at the time of the interview there were 20 more registered for the second edition. This was a novel and innovative approach as 2 CoVE partners coordinated and funded this from the project budget, trained participants and provided legally recognized certificates.
- In collaboration with the Pomeranian University of Słupsk, an eco-logistics vocational training specialization was introduced at the VET school (currently 3rd year students). After the 5th year, graduates may attend the University of Słupsk, and continue to study Green Logistics. Certain modules from the technical secondary school training will be credited towards the studies. Students will also be able to study two specializations: Green Logistics and Management, this will be possible since multiple modules from the vocational educational programme will have been credited toward the Green Logistics studies, which will give the students time to apply themselves to another specialization.
- A Circular Economy training was carried out in the logistics specializations at the VET school, this module has now been fully adapted into the school's curriculum.
- Continuous training in the area of operation of electrical devices and installations
- Markos (a boat manufacturing company) is preparing a concept on factory school facilities - they will create a facility within their company which will be a school facility for young people, they will have a classes on site.

- A new specialization called Eco logistics was introduced as part of the vocational schools offer.
- A new class in boat building has been initiated at the VET school. This school is tailored toward educating specialists in boat/yacht making and plastics used for manufacturing, this is in cooperation with the company Markos.
- Establishing in house SME trainers at Markos.
- specialized training in areas such as renewable energy, specifically in photovoltaics and heat pump systems (continuing education).

We need to get closer and closer in terms of the distance between teaching at the vocational level, i.e. the mechanics school (note: Vocational School) through professional training at the higher level, and the introduction of graduates to the real challenges they face today.

International co-operation

International exchange was stated to be a great opportunity to look at how other international models of collaboration function.

Additional elements that could be beneficial within the project framework and within international CoVE collaboration: student and teacher exchange (short exchanges) and employee exchange i.e. getting to know best practices in various areas of a company in a different country (manufacturing, HR, project management etc.).

Projects like this aim to organize the transfer of knowledge and skills between different countries. It's different in every country, and it's the same in our partner countries. We're trying to put it together.

Long-term continuation and plans for the future

We are developing talents, the participation of our employees in the dual studies program, I see it as the development of these talents. It is so hard to acquire talents, there is talk about a global crisis of talents, so we just don't wait yet for the talents to come to us, we will get them ourselves: we need to create and support development opportunities.

There are plans, ideas and concepts to work on the durability of the 3LOE national CoVE as well as share and present the benefits of CoVEs to the national audience in Poland. Some of these include:

- the University of Słupsk is preparing an academic thesis on dual studies in higher education which is based on the experience from the 3LOE CoVE. This will be shared amongst universities and other target groups
- the VET school is testing an internship specialization pilot with multiple SMES, the results of this pilot will be assessed in the next 2-4 years. The pilot focuses on increasing the number of pupils' practical days at SMES (more practical days than required by the national curriculum)

- the Dual Bachelor Degree Program at the University of Słupsk is ongoing and will be finalized after the project duration
- the Chamber of Crafts in West Pomerania is looking into education pathway permeability options in collaboration with the West Pomeranian Technical University
- the Board of Education in West Pomerania would like to introduce the concept of COVES on the Board of Education level of all voivodships
- More national universities are finding out about the COVE concept e.g. the concept was introduced at the national VET expert convention in Elbląg (2023)
- multiple SMEs want to collaborate with the VET school in the area of on-the-job training
- the VET school will try to obtain external funding to maintain certain activities developed within the project framework
- financing could be secured by commercializing CoVE services, for this a separate national COVE website should be available (or should be available as a subpage on the main website), this could lead to commercialization opportunities and also keep the national COVE motivated and connected after the duration of the project.
- establishing a COVE association could be an option, especially since this kind of associations have training/ schooling opportunities
- developing a specialized vocational school on the premises of one of the businesses which took part in the project. The idea is being discussed with the Marshall of the Voivodship.
- some companies involved in the project are planning long term cooperation within the 3-level structure and are looking for ways on how to finance this initiative.
- the University of Słupsk will continue involvement with businesses in the area.

Working in a CoVE opened lots of other collaborations and resulted in even greater openness and I think it debunked this myth that if you go to university, it is only to study and get a diploma, and that you should not go to university if you want to cooperate and create something together.

Conclusion and recommendations

The overall conclusion is that setting up CoVEs on a national level is of great benefit and opens communication and collaboration gateways between vocational schools, businesses and higher education.

The interviewees stated that thanks to the initiatives developed within the 3loe project students are being trained not only in their specific trades but also in understanding the broader environmental impact of their work. This holistic approach is seen as crucial for shaping future leaders who are conscious of both their technical/professional responsibilities and their environmental footprint.

The list of conclusions and recommendations is as follows:

- CoVEs are still a novel concept in Poland
- the established CoVE provided a supportive framework for information flow between vocational schools and higher education institutions
- the curriculum (s) provided and developed within the 3LOE project framework improved the acquired qualifications of the students in a way that raises their competitive advantage on the labour market
- ongoing vocational training for teachers is needed to keep up with the rapid pace of technological change
- thanks to the CoVE in Poland, vocational education teachers have access to current information about the educational trends; what is in progress, what is being developed and what has already been submitted for implementation/production at higher educational institutions. These insights allow the vocational teachers to include the newest trends and technologies into study curriculums and therefore gives them and their students an advantage. They have access to knowledge that they would not have had access to without collaborating with higher education institutions.
- strong English skills are needed to develop a CoVE within a European Union project framework
- an increase of practical training in vocational training programs is needed in order to prepare pupils to enter the workforce
- aligning educational content with the latest industry trends and technologies, particularly in renewable energy (vocational schools) is of great importance
- each National COVE should have a separate website and an equivalent of a name in the national language, this would make it easier to continue CoVes after the project durations end
- a European system of vocational certification recognition is crucial for EU employee mobility
- there could be more focus on Micro companies in the future, teaching skills that are needed across the board (e.g. logistics, management)
- it would be beneficial for all project trainings to result in a nationally acknowledged certificate
- study visits would be a great option to organize within the COVE development process, this would tighten the collaboration and also allow teachers to observe the research process at universities as well as help spark their students “technology curiosity”.
- in Poland, there is a need for publicly accessible information on how dual studies can function on the higher education level (legal requirements, contracts between employer, school and entrepreneur).
- students from VET schools are willing to take part in the extended curriculum courses due to the environmental values that are being taught, at the same time

it is important for them to know what kind of impact it will have on their career financially (specific qualifications = better salaries in the future)

- even more focus on training and developing the trainers, creating courses which allow vocational school trainers to develop their competencies so they can relay the information to their students.
- support with technical stations at vocational schools. Many VET schools in Poland could use assistance with regard to technology support e.g. a kit for teachers that would allow them to build a technology station with students, this kit would cost up to 20 EUR and allow the teachers and students to build it up on their own (example topic: comparing the energy efficiency of incandescent and led bulbs). Later on, the teachers could use the build models for research purposes.
- career counseling at the primary school level is an idea that would allow for better career guidance from the very beginning of the educational pathway
- Poland is working on Vocational / Industry Skills Centers (Branżowe Centra Umiejętności) which are part of a ministerial project focusing address niche vocational training needs in various trades, ensuring that even less common professions can be supported through specialized training programs. There are synergies to be found between CoVEs and Vocational / Industry Skills Centers
- bridges must be built between multiple stakeholders and State Universities of Applied Sciences (Państwowe Wyższe Szkoły Zawodowe) should be involved.

CoVEs as a systemic solution should be introduced in Poland as a standard.

4.7 Spain

1. Partner structure

The Spanish COVE is made up of the VET school Institut Pere Martell in Tarragona, the Ministry of Education of the Government of Catalonia in Barcelona, and the water management company AGBAR in Barcelona. It is coordinated by the VET school Institut Pere Martell in Tarragona.

The 3LoE Spanish project partners have cooperated with the the University of Rovira i Virgili in Taragona, the Chamber of Commerce and Industry in Tarragona, the Water school Escuela del Agua in Barcelona and the VET school Institut Esteve Terradas in Cornellà de Llobregat within their COVE. These institutions have become permanent partners of COVE Spain.

2. CoVE structure and cooperation

The Spanish COVE was formed based on already existing cooperation. The Institut Pere Martell is a public VET school supervised by the Ministry of Education of the Government of Catalonia. The Spanish CoVE has grown and integrated new partners

to implement sustainable dual vocational trainings in green economy in education, training and higher education.

Green economy courses offered within the 3LoE project are not part of the curricula of educational institutions, which are supervised by the national government. The VET school Institute Pere Martell faced difficulties finding participants in the courses:

“Another difficulty was to find students who want to enroll in the different courses because they are doing dual trainings in the companies, so they are working and studying at the same time. It is hard for them to find free time to do these courses”.

The VET school called on the Chamber of Commerce and Industry in Tarragona to find companies interested in these courses. The Chamber of Commerce and Industry in Tarragona was looking for centres to meet companies' training needs:

“We are in contact with companies, and they are looking for people that are trained on green energies, so we have to find centres that can train these people in order to help the companies”.

The Institute Esteve Terradas is, with the Institute Pere Martell, the only VET school of the region that offers a specialisation in the water industry. It hosted some of the courses developed by the Ministry of Education of the Government of Catalonia and brought its expertise:

“They were the pioneers in some of the studies that we are offering in the COVE and most of their students are working at AGBAR. So, everything was a perfect match and came together”.

It was much more difficult to involve a university in their COVE to deliver dual training in green economy in higher education. Neither the VET schools nor the water management company AGBAR worked with a university before the 3LoE project:

“There are also new things that we are incorporating. For example, the relationship between vocational education and university did not exist before and we never imagined it could exist”.

“For us it is the first experience with the university. We have many people in vocational training doing dual courses with our companies but not in the university”.

The setting up of a COVE in the green economy in Spain as part of the 3LoE project has built bridges between vocational education and higher education. The University of Rovira i Virgili in Taragona was integrated in the Spanish COVE after creating a dual bachelor's degree in chemistry, the first one in Spain.

The cooperation within the Spanish CoVE is positively assessed by the partners. It allowed them to strengthen their relationships with the other institutions. They also gained knowledge, as the Institute Esteve Terradas:

“With the help of the 3LoE project, we learned a lot about the green economy and improved different courses.”

The newly established cooperation with the university is very valuable for the company:

“I think this is a very huge social value that we are offering by this collaboration between university and private companies.”

Joining the COVE allowed the university to incorporate a new company in their dual training programme.

However, the collaboration between the VET school and the university has been difficult because they have different approach:

“Sometimes it is difficult to collaborate with the university. They go with one path, and we go with another path; sometimes it is difficult to find a common way”.

3. Tasks performed by the COVE

With strong support from the other seven COVEs, COVE Spain has implemented a large number of promotional and educational programmes in the 3LOE project:

- a) Vocational and qualification counselling
- b) Trainings Water supply technologies
- c) Implementation dual vocational training Spain “Electromecanico”
- d) Trainings Technologies water saving.
- e) Training Wastewater treatment and recycling management
- d) Training Preparation and management of SMEs for green economy
- d) Training Waste reduction and recycling management
- e) Implementation Training for SMEs: Energy Efficiency and Renewable Energies
- f) Training Water Resource Management During Drought Periods
- g) Training Resilient Strategies for Water Management in Response to Climate Change
- h) Training Generation of Energy from Wastewater and Waste
- i) Training Operation and Maintenance of Wastewater Treatment Plants (WWTPs) and Industrial Wastewater Treatment Plants (IWTPs)
- j) Training Efficiency in the Operation of Reverse Osmosis Desalination Plants: Advanced Practices and Innovative Solutions
- k) Training Sustainable Management of Wastewater in the Circular Economy: Approaches and Solutions
- l) Training Addressing the Climate Emergency and its Impact on the Water Cycle: Practical Approaches and Innovative Solutions

Furthermore a “train-the-trainer” training was organised at the Institute Pere Martell for the students’ mentors in the company:

“So that they are ready when VET students come to the company, so that they know how to welcome them, how to teach them and how to take the best out of them.”

4. International cooperation

International cooperation is valuable for the partners of the Spanish COVE:

“It is a good thing to see another point of view because sometimes you are very focused on what we are doing, and if you can see another way of doing things, you can realise that you like that type of classes and that you can do the same thing in your classes.”

The 3LoE project was the reason and starting point for intensive cooperation with international partners:

“There are so many different countries with so many different vocational schools that enable exchange and intensive learning from each other. [...] We will take action and hope very much for support in order to continue to be in contact with the vocational schools of the project even after the end of the project.”

5. Long-term continuation and plans for the future

All partners of the Spanish COVE wish to continue and increase their cooperation in the green economy. Most of them already worked together before the 3LoE project, but they agree that being part of the COVE has strengthened their relationship and fostered exchanges. This cooperation is essential:

“It is a bit strange because the number of unemployed people is high, but at the same time, companies are looking for employees. Maybe the problem is that the young people is not good educated. So maybe we must align ourselves better and make courses specifically according to the needs of the companies.”

However, to do so, companies must invest in schools:

“Sometimes, it is hard because the companies say that our students are not well prepared [...], but we do not always have the necessary tools to prepare our students. [...]. In the Basque country, companies invest in schools and buy the latest tools and things to better prepare the students. In Catalonia, it is still difficult.”

More and more students from vocational schools later follow a bachelor’s degree at the university. There is an urgent need to develop the cooperation between VET and higher education, which remains marginal:

“Nowadays, I think that the universities only work with companies. They go directly to the companies at the end of the process and, I do not know, they do not ask us to collaborate.”

“We need to strengthen the relationship between universities and vocational schools. [...] We need more communication, and this centre of excellence might help us go in this direction.”

The university will draw on the experience of vocational schools of the Spanish COVE to design a training programme for the industrial and academic tutors:

“The vocational schools here already developed a guide to train the industrial and academic tutors. [...] we also need to develop this guide but at the bachelor level. Taking this as a base, it will help us to go faster in developing these training programmes.”

The partners also emphasise the necessity to increase the cooperation between the universities and the companies:

“I think that universities and companies must talk and work more together. Sometimes students finish a degree and arrive in a company and realise that there is no connection between them.”

The objective is to create more dual bachelor's degrees, not only in chemistry but also in other strategic fields.

Being part of projects such as 3LoE is essential for the companies:

“It is very important for the strategy to know what is happening, the trends. Here in Spain at least the education legislation has had a lot of changes in the vocational training and on the university level as well. So, for us, it's important to know what is coming and be prepared.”

The Spanish COVE must continue, as the renewable energies are a fast-growing sector. Companies need skilled workers in this field and need the support of educational institutions and the government:

“We need more students in renewal energies. [...] We have a lot of work because the companies are putting solar panels everywhere. [...] I think the government has to do more efforts to fund students, to minor specialties that are very important for our companies.”

To motivate the students to take part in this kind of training, it would be interesting to offer them the possibility to do part of it abroad.

However, the impact of the Spanish COVE is limited:

“[...] We are a bit limited because obviously a centre vocational excellence implies curricula changes. [...] the core of it comes from the central government in Madrid and we cannot touch it.”

A new educational law will be passed in Spain in September to create a new dual model that is more interesting for the companies and the students. The green economy, the 2030 Agenda and sustainability will be part of the new curriculum.

The cooperation model of the Spanish CoVE, which gathers companies, educational and governmental institutions, will be essential in implementing this law:

“I think in the future we are going to do more things together.”

To foster cooperation within the actors of the Spanish COVE, the company suggests reducing administration as much as possible:

“Finish bureaucracy as much as possible would be the most effective way of supporting companies and universities.”

All partners of the Spanish COVE emphasise the benefits of dual studies for the companies and for the students. The companies can employ better skilled students and already know how they are working and if they are a good fit for them. It is easier for the students to find a job and they usually have access to better jobs.

The Spanish COVE may grow; the faculty of chemistry of the University of Rovira i Virgili is currently helping other faculties of chemistry in Spain to create dual bachelor's degrees:

“We know at least five faculties that are trying to develop a dual training programme for next year and we are in close contact with them because they are taking us as reference.”

6. Conclusion

Renewable energies and the green economy have gained importance in the recent years in Spain. The new school curriculum of the Spanish government will integrate the green economy and the 2030 Agenda and sustainability from September 2024. Thanks to the 3LoE project, the Spanish COVE partners are one step ahead: they are already familiar with the green economy, and it is already part of their activities. Their experience is valuable to all Spanish institutions willing to integrate green skills into their training programmes and interested in dual degrees. Spain's first dual bachelor's degree in chemistry was developed within the 3LoE project at the University of Rovira i Virgili. Other Spanish universities are already working on the development of a similar degree taking inspiration from what has been done within the Spanish COVE. Therefore, dissemination of the results and good practices of the Spanish partners in the 3LoE project should take place not only at regional level, but also at national level.

The partners of the Spanish COVE have benefited greatly from the cooperation established within the 3LoE project. The presence of the Ministry of Education of the Government of Catalonia in the COVE has been very helpful to make connections with new partners. The VET school Institut Pere Martell and the company AGBAR have cooperated with a university for the first time. It has been a milestone in the development of the Spanish COVE, but this cooperation is not self-evident. The relations between VET schools and companies with universities need to be strengthened in the future.

The cooperation within the Spanish COVE will continue beyond the project and is considered essential by the partners. In the future, the Spanish COVE should include more companies and get them to invest in their future employees' education. The Basque model, where companies invest in the schools' tools could serve as a starting point. International cooperation with other COVEs on green economy should be developed.