



ABOUT THIS PUBLICATION

Meeting the challenges in the fields of energy, climate and environmental protection requires comprehensive reorientation and forward-looking innovations. These tasks must be mastered by SMEs against the background of the following problems:

- blatant & growing shortage of skilled workers
- large qualification deficits, especially in the Green Economy
- loss of attractiveness & low qualification of school-based VET
- low rates of further training & insufficient orientation of offers to SME needs
- ageing of entrepreneurs & high, growing shortage of young people (demographic change)
- failure of business transfers & low rates of business start-ups
- low innovation rates & insufficient productivity
- not enough cooperation between universities and SMEs & a lack of teaching geared to SME needs
- comparably low internationalization of SMEs & many vocational training providers

To meet these challenges, 22 project partners from 7 countries and 70 associated partners from 13 countries have developed, operated and ensured the long-term continuation of eight centres of vocational excellence for the green economy. The centres introduce dual education and implement a wide range of measures in vocational training, further education and higher education, which are developed, tested and evaluated in the project. The eight center developed and implemented 7 Train the Trainer programs, 59 vocational trainings, further education and study programs, 5 tools and support programs and 10 concepts and political strategy programs. The educational measures cover Green Economy, Digitalization and Entrepreneurship. Vocational and educational counselling and innovation support for SMEs were developed and implemented.

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



The project 3LoE has been co-funded by the Erasmus + Programme of the European Union. This publication reflects the views only of the authors, the European Commission cannot be held responsible for any use which may be made of the information contains therein.



Dr. Jürgen Hogeforster

Three-level Centers of Vocational Excellence: Qualification, Entrepreneurship and Innovation in the Green Economy (3LoE)

Three-level Centers of Vocational Excellence: Qualification, Entrepreneurship and Innovation in the Green Economy



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Printed by:
BoD-Books on Demand, Norderstedt, Germany

ISBN 9783759766854

Part-financed by the European Union (Erasmus+) within the 3LOE project. This publication does not necessarily reflect the opinion of the European Commission.
We are very grateful to the European Commission for the financial support and also to the European Education and Culture Executive Agency for the support and advice.



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



**Three-level Centers of Vocational
Excellence:
Qualification, Entrepreneurship and Inno-
vation in the Green Economy**

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Introduction

1 The 3LOE Project

In many EU countries SMEs have a shortage of skilled workers and young entrepreneurs, which will increase for demographic reasons in the future. These factors will have the largest impact on the limitation of SME further development.

At the same time, some of the participating countries have a high level of youth unemployment, especially in countries with school-based vocational education and to a much lower extent in countries with dual vocational training. In order to achieve close coordination and to meet the demands of working life, work-based learning must be provided so that all young people are integrated into vocational training. Reducing the high levels of exclusion among youth requires new paths in vocational training and integration.

In addition, there are striking qualitative deficits. In the face of a dynamic technological and economic change, the qualifications of specialists and managers, as well as entrepreneurs, must be raised significantly and become more future-oriented.

Due to aging of current entrepreneurs, a large and growing number of companies must be handed over to the next generation. At present, more jobs in the EU are lost as a result of failed business transfers rather than new ones are created by business start-ups.

The high number of university graduates means that SMEs can only attract a limited number of young entrepreneurs, since they are well-qualified in theory, but lack practical knowledge, skills and abilities that are crucial for SMEs. For this reason, VET reforms must also involve higher education, and should implement dual bachelor's degree programs that combine a bachelor's degree with vocational training or work in companies.

In order to ensure an effective transfer of business ownership and a high number of new enterprises, promotion of entrepreneurship must be given a particular priority.

Strengthening and improving VET at all levels (EQF levels 3 - 6) characterize the most important promotion tasks for SMEs in order to overcome the existing quantitative and qualitative bottlenecks, to integrate all staff and to encourage innovation and competitiveness in SMEs.

In order to tackle major challenges in the fields of energy, climate and environmental protection, SMEs can employ solution-oriented approaches. However, in these areas, the shortage of skilled workers and deficits in their competences are particularly striking in SMEs. For example, the national reports "Build up skills" have shown that to reach the EU energy targets in individual countries in the energy sector, the number of skilled workers must be doubled and at the same time skill levels must be raised significantly.

In view of the urgent nature of the tasks and existing shortcomings in the areas of energy, climate and environmental protection, strong improvements and innovative developments in VET in the Green Economy are of paramount importance.

To overcome these challenges, the project "Three-level Centres of Vocational Excellence: Qualification, Entrepreneurship and Innovation in the Green Economy" (3LOE) was carried out from 2020 to 2024 under the leadership of the Hanseatic Parliament with partners from seven EU countries. The project involved 70 associated partners (chambers, SME associations, vocational training institutions, colleges and universities) from 14 countries, who participated as transfer recipients and implementation partners.

The composition of the project consortium, the great commitment of all partners and a smooth cooperation ensured the outstanding success of the 3LOE project. We sincerely thank all partners and the persons involved for the excellent cooperation.

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2 Summary of the Project

Around 99% of all EU businesses are SMEs, creating up to 70% of all jobs. In general, SMEs have good growth prospects for the future and are particularly well equipped to solve environmental problems and to enhance the green economy. However, in most of the project countries, SMEs are confronted with a shortage of skilled workers and young entrepreneurs. This shortage of skilled workers is even more alarming taking into account that due to aging of current entrepreneurs, a large and growing number of companies will have to be handed over to the next generation. Furthermore, young specialists and entrepreneurs often lack the qualifications and skills needed in order to respond to contemporary developments in the fields of energy, climate and environmental protection. The following problems have been identified in SMEs working in the fields of green economy, energy and environmental protection:

- Blatant and growing shortage of skilled workers.
- Large qualification deficits, especially in the Green Economy.
- Loss of attractiveness and low qualification of school-based VET.
- Low rates of further training and insufficient orientation of offers to SME needs.
- Ageing of entrepreneurs and increasing shortage of young people (demographic change).
- Failure of business transfers and low rates of business start-ups.
- Low innovation rates and insufficient productivity.
- Not enough cooperation between universities and SMEs and a lack of teaching geared to SME needs.
- Comparably low internationalization of SMEs and vocational training providers.

- Lack of national level support for SMEs.

To meet these challenges, work-based learning and new paths in vocational training must be provided through cooperation between educational institutions, economic chambers and SMEs. University graduates are often well-qualified in theory, but lack practical knowledge, skills and abilities that are crucial for SMEs. For this reason, VET reforms must also involve higher education, and should implement dual bachelor's degree programs that combine a bachelor's degree with vocational training and on-site work in companies.

In the 3LOE project, an innovative and complex project structure with 22 project partners from 7 countries as well as 70 associated partners from 14 countries was designed. In each country, centers of vocational excellence (COVEs) in Green Economy were established, managed and their permanent continuation ensured. A transnational cooperation of the centers was developed, extended to 70 education stakeholders from 14 countries and operated permanently in an institutionalized form. The centers offer a wide range of dual education measures in vocational training, further education and higher education, that are being developed, tested and evaluated in the project. These educational measures on EQF levels 3 -7 focus on Green Economy, Digitalization and Entrepreneurship. Furthermore, vocational and educational consulting and innovation support for SMEs were developed and implemented. In total, seven Train-the-Trainer programs were developed and implemented permanently by the project partners. All results were transferred to the 70 associated partners together with implementation advice.

Overarching objectives are:

- Sustainable improvement of qualifications, securing the next generation of skilled workers/managers and entrepreneurs and strengthening the competitiveness of SMEs in the green economy.
- Realization of energy savings, use of renewable energies and environmental and climate protection by qualified, innovative SMEs.

The action objectives and aimed outcomes of the 3LOE project can be summarized as following:

1. Foundation of a three-level Center in each project country

1.1 Building the "Green Economy" skills alliance for qualifications in SMEs with educational and economic actors from the 7 project countries; development of information and cooperation tools.

1.2 Realization of intensive transnational cooperation and expansion of the skills alliance to the 70 associated partners from 14 countries, comprising chambers of commerce, SME associations, as well as universities of applied sciences/colleges.

1.3 Development, testing and evaluation of a curriculum and teaching materials for Train the Trainer courses for personnel and center management (vocational school-teachers, trainers in SMEs and lecturers in further and higher education institutions).

1.4 Evaluation of the construction and operation of the eight centers of Excellence and of the transnational cooperation.

1.5 Development of business and financing plans and ensuring the long-term continuation of the seven centres and transnational cooperation.

1.6 Development, consulting and introduction of political strategy program.

2. Implementation and realization vocational training

2.1 Development and implementation of a tool for vocational and qualification counselling as well as a training for consultants and teachers to use the tool.

2.2 Implementation of the dual system, so that work-based learning is put into practice in the project countries.

Preparation and transfer of curricula and examination regulations for dual vocational training for different professions and implementations in Poland, Lithuania, Latvia and Spain. Development, test and implementation Trainings for teachers to conduct dual vocational training as well as Training of trainers in SMEs.

2.3 Development political concept for the training and integration of young people with learning difficulties for young people with learning difficulties (EQF level 3). Development, test and implementation of a dual vocational training "Specialist for Building Insulation".

2.4 Development, testing and evaluation of education program, teaching materials and examination regulations for the provision of sector-specific qualifications already during the initial vocational training for stronger learners. Implementation in the dual system, so that work-based learning is put into practice in the project countries.

2.5 Development and implementation five-year technician training „Ecologic Solutions in Logistics“.

3. Implementation and realization of further vocational training

3.1 Development and implementation of concepts and instruments for the management of continuing vocational training.

3.2 Development, test and implementation of a Train-the-Trainer program for teachers to conduct further training.

3.3 Development and implementation of a concept "SME-fair digitalization" as well as development, test and implementation of two train the trainer programs "Basic and advanced digital skills".

3.4 Transfer and implementation of four further trainings Energy Saving and Renewable Energies.

3.5 Preparation, transfer and implementation of six further trainings in the Green Economy.

3.6 Development, testing and evaluation of different training programs and teaching material for owners, managers and qualified workers of SMEs (EQF level 5 and 6). The trainings are specifically tailored to SME needs and different qualification levels and combine the transfer of technical, professional and management know-how.

- Training Enterprise and Entrepreneurship in Green Economy
- Training Energy Service Manager
- Trainings vocational Master Carpenter and Electric
- Training Construction Technician
- Training Service Technician
- Training Sustainability in foodservice industry

3.7 Development of regulations for new continuing education occupational profiles with a focus on the green economy.

3.8 Development of an integration program for the unemployed (EQF level 4) in order to be able to place the unemployed in permanent jobs through further training seminars and a further training qualification.

4. Implementation and realization of higher education

4.1 Preparation, transfer and implementation of curricula, evaluation and examination regulations for two existing dual Bachelor's degree programs "Management of Renewable Building Energy Technology" and "Business Administration for SMEs".

4.2 Development and beginning of implementation of new dual bachelor's degree programs

- Business Administration & Sustainable Management of SMEs
- Entrepreneurship and Innovation in Green Economy
- Logistics - Green Supply Chains
- Electrical and Automatic Equipment
- Sustainable Building System Technology
- Tutorial "Sustainable management Climate neutrality for companies"

4.3 Development, test and implementation of four study modules (EQF level 6) on SME management in the Green Economy sector, which will be carried out in the dual study system and integrated into existing Bachelor's degree programs.

4.4 Development and implementation of concept for innovation promotion solutions for manageable R&D tasks of SMEs and conducting manageable R&D projects for SMEs-

4.5 Development, testing and implementation of Training program for university lecturers and SME advisors.

For each of the three levels of educational measures there will be:

- Target-group-specific educational programs.
- Curricula, teaching materials, etc. developed in a leading role by the educational institutions of the respective level, whereby the educational institutions of the other levels (in particular universities) participate in an advisory and supportive manner.
- Representatives of the participant target groups involved in the development work.

All educational measures will be tested with the respective target groups under different national conditions in the countries, evaluated and completed on the basis of the evaluation results with application notes.

5. Dissemination, transfer and use of the project results

5.1 Development of a concept and summary evaluation of the dissemination results of all partners

5.2 Transfer of all educational measures to 70 educational institutions in 14 countries and needs-oriented implementation consultations as well as realization of a bundle of measures for further dissemination of the project results.

5.3 Further dissemination activities such as presentations online, at third-party events, press releases and conferences.

5.4 Book with all results of the project and distribution via book trade.

6. Quality Management

6.1 Development and implementation of quality assurance system of the project consisting of the four quality plans

- educational measures
- Transfer and implementation
- Centres of professional excellence and cooperation
- Project implementation

6.2 Analyses and creation of a result report of all evaluations and assessments

- a summary of all the results of evaluations of all training activities
- a summary evaluation of all the results of the quality assurance measures
- a comparison of the objectives and results planned and those achieved
- an assessment of the results and their sustainable use.

3 Overview of the results of the project

Work Package 1 Management, Workshops & Conferences

The project was realized by 22 partners (vocational schools, business chambers / SME associations, universities and public administrations) from 7 countries (Austria, Germany, Latvia, Lithuania, Italy, Poland and Spain). Involved in the project work and international co-operation were 70 associated partners (business chambers, SME associations, vocational training institutions, colleges and universities) from 14 countries. The lead partner was the Hanse-Parlament, Germany.

As part of the project, 13 workshops with all project partners and 4 international conferences with project and associated partners and other stakeholders were organized.

In the 3LOE project were developed and implemented:

7 Train the Trainer programs

59 vocational training, further education and study programs (EQF Level 3 - 7)

5 tools and support programs

10 concepts and political strategy programs

The 3LOE project has established eight COVEs that have developed, tested, evaluated and implemented numerous support and education programs. The following took part in the implementation of the programs during the project period:

Teachers & Trainers	218
Learners & Students	4.550
Companies	483
Participants in workshops & conferences	456
Total	5.707

Results 1.1 - 1.4 Interim and final reports of the project with final accounts were not published.

Work Package 2 Development and operation of regional centers

In the 3 LOE project, eight COVEs in Austria, Germany, Italy, Latvia, Lithuania, Poland and Spain were set up and developed with great success by the project partners in the respective countries. Co-operation in the COVEs is based on binding co-operation agreements and, in one case (COVE DE Hamburg), on a national law. Numerous other regional and national educational institutions and organizations are involved as partners in all COVEs. All 8 COVEs work intensively with companies, especially SMEs, which contribute their needs through direct contact, help shape funding and training programs, participate in trials and carry out R&D projects with universities.

The COVEs in the individual countries have been organized in such a way that all educational tasks can be carried out at EQF level 3 - 7, namely:

- Vocational schools that provide initial vocational training in the dual system with companies, are involved in continuing vocational training and participate as educational partners in dual bachelor's degree programs.
- Chambers of Industry, Commerce and Crafts, which ensure the involvement of companies in all COVE activities, encourage companies to participate in dual vocational training and dual study programs, are particularly active in continuing vocational training and provide ongoing advice to companies.
- Colleges and universities that contribute to the development of curricula and teaching materials for initial and further vocational education and training and provide teaching staff for their implementation where necessary, as well as developing and implementation dual bachelor's degree programs in particular and providing innovation support for companies in connection with this.
- The additional involvement of ministries in the COVE of two countries (Latvia and Spain) has had a very positive effect on the work of all COVE. They have clarified legal regulations and administrative matters, played a key role in the development and implementation of legal regulations (e.g. creating state-recognized continuing education qualifications), helped develop political strategy programs and carried out evaluations.

Cooperation within the individual COVEs and internationally between all COVEs is promoted through biannual workshops, four international conferences, seven train-the-trainer seminars, the provision of cooperation tools and models, online meetings and an ongoing exchange of experience. This support is essential, but even more effective for the development of regional and international cooperation was the simultaneous implementation of joint concrete work. Various tools and advisory programs, over 40 vocational training programs at EQF level 3 - 6 and R&D projects with and for SMEs were jointly developed and implemented.

The work was carried out in international cooperation between vocational schools, chambers with their educational institutions and universities. Partners from individual countries jointly developed tools, curricula, teaching materials, examination regulations, etc., which were trialled and evaluated in several countries in order to record different national conditions. After revision and finalization based on the evaluation results and adaptation to national conditions, the tools, curricula etc. were transferred to all eight

COVEs, which received implementation advice. In this way, 36 comprehensive results were produced in the 3LOE project.

Each of the eight COVEs takes into account the respective national and regional development strategies. Based on local and regional needs and challenges, the COVEs make a decisive contribution to achieving the specific objectives and strategies for regional development, innovation and smart specialization. To this end, the individual COVEs have held numerous events, conferences, workshops and direct dialogues with the relevant regional stakeholders. Through the needs-oriented development and implementation of funding and education programs, strong effects were achieved for regional developments in accordance with the respective regional strengths and needs.

70 associated partners (chambers, associations, vocational schools and universities from 14 countries) were involved in the international cooperation of the 8 COVEs, contributing their experience and knowledge from the start of the project, taking part in workshops and conferences, advising on results and planning their own implementations. The associated partners received all results and individual implementation advice as required.

All 8 COVEs will be continued in the long term and funding has been secured. The 8 COVEs will continue to implement the education and advisory programs and develop new education programs, which have already been planned by the individual COVEs.

International cooperation between the 8 COVEs and with the 70 associated partners will also be continued in the long term; funding has also been secured for this and the Hanse-Parlament will take on coordination tasks.

Result 2.1 Analyses and recommendations

In the project 3LOE the data analysis was carried out under the two following aspects:

- a) Geographical aspects: the analysis refers to the seven countries of the project, all of them EU members: Germany, Poland, Latvia, Lithuania, Austria, Italy, and Spain.
- b) Aspects of the project 3LOE:
 - Analysis of the current socio-economic situation in the countries, covering the demographic and economic aspects of the seven European countries.

- Comprehensive overview of education markets and national education systems in the project partner countries.
- Qualification requirements in the Green Economy sector.

The results of these analyses provide country-specific information and needs for the development of the respective centre of vocational excellence as well as standard-ized basic data for all partners for all development and implementation work.

Result 2.2 Three-level centres of professional excellence "Green Economy for SMEs" and transnational platform Part A Concept: Development and Implementation

Part A comprises standardized principles and concepts for the structure of the COVEs. Based on bottlenecks and possible solutions for the development of SMEs and vocational education and training, challenges and objectives as well as tasks and structure for the development of the COVE are presented. Particular attention is paid to the third stage "higher education". The concept is then evaluated with regard to the European Union level vocational education and training priorities. The report concludes with a memorandum that the partners of each COVE conclude with binding effect for the development of their centre.

Result 2.2 Three-level centres of professional excellence "Green Economy for SMEs" and transnational platform Part B Development and Implementation of Information & Cooperation Tools and transnational Cooperation

As the 7 COVEs are primarily dedicated to the promotion of SMEs, Report B first presents the cooperation and promotion needs of SMEs. In order to meet these needs, the individual COVEs carry out a variety of promotional and educational tasks. Tools and models have been developed for the important cooperation between the partners of a COVE and for the international cooperation of all 7 COVEs. The report concludes with the expansion of international cooperation to include 70 asso-iated partners from 13 countries.

Result 2.2 Three-level centres of professional excellence "Green Economy for SMEs" and transnational platform Part C Results and Business Models

Following a summary of the results of the development of the 7 COVEs, Report C presents the realized international cooperation, and the implementation reports for each COVE. This is followed by a concept for evaluating the 7 COVEs and evaluation

reports. Report C concludes with the binding plans for the long-term continuation of the COVEs established in the project and the international cooperation.

Result 2.3 Training program for personnel and center management

In order to prepare the management of the COVEs and promote international cooperation between all COVEs, a special training program for staff and centre management was developed, tested and evaluated as part of the 3LoE project. The developed curriculum, the implementation report and the evaluation are summarized as result 2.3 Training program for personnel and centre management.

Result 2.4 Political strategy and action program

EU funding options were analysed in order to determine the future funding options for the long-term continuation of the eight COVEs and to develop a basis for the development of a political strategy program.

In particular, vocational education and training must also meet the requirements of the world of work and the needs of companies. For this reason, the development of a strategy and action program for vocational education and training is preceded by a consideration of the world of work of tomorrow. Based on this, objectives for a European education policy and strategies for the organization of future vocational education and training are formulated. Strategies for the COVE in the individual partner countries are developed on the basis of these comprehensive results.

Work Package 3 First center level "Vocational training"

Result 3.1 Tool for vocational guidance and training for teachers

In order to provide guidance to pupil and students on their vocational path, a tool for vocational guidance and qualification counselling has been developed together with a training for teachers and consultants on how to use this tool. The tool and the training have been tested and evaluated. As Result 3.1 Tool for vocational guidance and training for teachers and consultants, the tool, the implementation reports of testing the tool as well as the curriculum for the teacher and consultant training, implementation and evaluation are summarized.

Result 3.2 Training program for teachers to conduct DVT

Within the framework of the 3 LOE project, vocational training was designed according to the dual system in all participating countries. The basis for this is the German

dual system, which were transferred and adapted to the national conditions and specifically designed in the individual countries. The introduction of dual vocational training requires extensive preparations by the vocational schools and their teachers as well as by the companies and their trainers. For this purpose, appropriate at-e train-the-trainer programs have been developed and implemented.

Result 3.3 Curricula for specific dual vocational training. Part A Preparation and transfer of the German dual vocational training systems

As part of the 3LOE project, dual vocational training was implemented in all seven partner countries. The basis for this was the German dual system, which was adapted to the respective national conditions and implemented.

The German dual system was analysed and described in detail. Strategies were developed for the organization of vocational education and training as well as recommendations for transfer and implementation in countries where school-based vocational education and training has been predominant to date. Comprehensive presentations were also developed to enable the partners to independently present, communicate and explain the dual system in their countries. The results of this work are summarized as result 3.3 Part A Preparation and transfer of the German dual vocational training systems.

Result 3.3 Curricula for specific dual vocational training. Part B Implementation and Evaluation

Curricula for dual training in four different occupations were developed, implemented and evaluated in the COVEs Poland, Lithuania, Latvia and Spain on the basis of the prepared German dual system of vocational education and training and the transferred German training regulations and framework curricula in accordance with the most urgent regional needs.

- Poland: Electrician
- Poland: Fitter of fixtures and fittings in building industry
- Lithuania: Cook
- Latvia: Motor vehicle mechanic/Car mechanic
- Spain: Electromecanico

The implementation reports as well as an evaluation concept and evaluation reports are summarized as Result 3.3 Part B Implementation and Evaluation.

Result 3.4 Dual vocational training for people with special learning needs

The high number of young people who are not integrated and who drop out of training must be significantly reduced. Vocational training must take appropriate account of individual abilities and skills and requires extensive differentiation. By introducing different levels, young people with different educational backgrounds, different pre-requisites and learning progress can be given the opportunity to receive training that corresponds to their specific abilities. The project uses a specific dual training program for young people with learning difficulties. Based on the experience gained in the process and including experiences and solutions other partner countries a political concept for the training and integration of young people with learning difficulties were developed.

Result 3.5 Training programs for strong learners in initial vocational training

Dual training has proven to be particularly effective, however, attention should be paid to observe individual abilities and possibilities and better adapt to youth with different educational backgrounds, competencies, skills and learning progress. The project created a three to three-and-a-half-year training program for young people with strong learning skills, which includes the acquisition of additional qualifications and ends with a recognized qualification above the examination level of skilled work-er/journeyman (EQF level 5). Six training programs were developed, tested, evaluated and implemented in the Green Economy to provide additional qualifications.

Result 3.6 Training programs for the training of trainers in SMEs

For the training in companies, which comprises 70 to 80% of the total training time, the companies must be won over, informed and comprehensively prepared. To this end, the project developed, practically tested, evaluated and implemented various programs of training trainers in companies. An official examination regulation was developed, which leads to a state-recognized qualification "Certified Instructor".

Result 3.7 Two-year Training "Sustainable restaurant worker"

Sustainable restaurants offer a new perspective on what gastronomy means, offering healthy cuisine that also takes care of the planet. Different research show that small and medium-sized businesses are limited in their capacity to be innovative in terms of

increasing sustainability scores. At the same time, they often have a knowledge deficit as well as the shortage of appropriately trained staff. Accordingly, a two-year "Sustainable restaurant worker" training course was developed, trialled with 15 students and implemented in Lithuania in line with national conditions and needs.

Result 3.8 Five-year technician training „Ecologic Solutions in Logistics”

COVE Poland implements a five-year dual technician training “Ecologic Solutions in Logistics”, realizing a fundamental element of further vocational training (second stage). It is assumed that after the completion of the training, trainees will take up further education, enrolling in, for ex-ample, dual Bachelor studies “Logistics – Green Supply Chains” at Pomeranian University in Slupsk. A five-year "Ecologic Solutions in Logistics" technician training program was developed, evaluated and implemented in line with national conditions and specific needs.

Result 3.9 Business Ideas Challenges Green Economy

"Latuaideadiimpresa" (LTIDI) is an annual program of business game aimed at students aged 16-18, with the participation of schools and companies active at local level. LTIDI is a meaningful experience for nurturing students’ transversal skills, business culture, enabling them to learn about the basic elements of an entrepreneurial idea, supporting them both in the conceiving (training on the new business model, innovation and market, etc.) and in the creating phases (training on business plan, searching for funding, etc.).

Work Package 4 Second center level "Continuing vocational training"

Result 4.1 Concepts & Instruments for Management & implementation qualifications

In the 3LOE project were developed and implemented:

- 6 Train the Trainer programs
- 59 vocational training, further education and study programs (EQF Level 3 - 7)
- tools and support programs

In order to implement this very extensive program to a high standard and on time, implementation concepts, tools and guidelines were developed, discussed and

harmonized with the partners of the eight COVEs for all tasks relating to the development and implementation of all training measures at EQF levels 3 - 7. The result contains a summarized description.

Result 4.2 KAIN Method & Train the Trainer Program

The result was developed for the implementation of continuing professional education measures. It includes:

- Description of the KAIN method and application instructions.
- Concept and Curriculum for a Train the Trainer Program for teachers to conduct further training.
- Concept for the evaluation of the Train the Trainer Program
- Implementation and Evaluation report.

Result 4.3 Green Economy training programs

Six different advanced training courses in green technologies were developed and offered to trainees with vocational training and several years of professional experience, to acquire skills in water, wastewater, waste and circular economy. The courses are specifically tailored to the needs of the target groups “SME-owners and managers” and “SME professionals”. The imparted learning content is cross-occupational, experts and interested companies from all lines of trades will be addressed. The learning results are rated at EQF level 5.

Result 4.4 Training Energy Service Manager

An important task in energy-efficient building refurbishment concerns the comprehensive assessment of the buildings, the development of all necessary measures, the preparation of renovation plans, the determination of costs and refinancing options through energy savings and the comprehensive advice to investors. In order to impart the necessary skills, the 3LOE project developed, tested under various national conditions, evaluated and implemented the professional training program "Energy Service Manager".

Result 4.5 Training Enterprise and Entrepreneurship in Green Economy

A training program for SME owners and employees "Training Enterprise and Entrepreneurship in Green Economy" was developed, tested under various national

conditions, evaluated, finalized and implemented. Since the consulting of the customers is of great importance, the result includes a curriculum "Reliable, systematic consulting environmentally oriented solutions" as an additional elective module. Result 4.5 comprises the two curricula, implementation reports and the evaluation concept and report.

Result 4.6 Trainings Vocational Master & Trainings Technician

The 3LOE project is aimed to train company successors, entrepreneurs and managers, based on a relatively high-level qualification system. Developed, tested, trialled under various national conditions, evaluated, finalized and implemented:

- a) Two curricula for the vocational master craftsman training for electricians and carpenters.
- b) Two curricula for the technician training for construction technicians and service technicians.

The profession was chosen because there was a particularly great need for them among the implementation partners. The master craftsman and technician training courses end with a stately recognized qualification at EQF Level 6. The four curricula and examination regulations for the Vocational Master and Technician trainings were published on the project website for free download for future ongoing use. In this result implementation reports as well as evaluation concepts and reports are presented.

Result 4.7 Integration program for the unemployed

The eight Centers of Vocational Excellence established in the 3LOE project must also take on the tasks of integrating the unemployed into working life through qualifications as well as counselling and coaching programs or via retraining. An integration program for the unemployed was therefore developed, which was advised and agreed upon by the eight centres for vocational excellence in each country as well as in the project consortium. The program offers the opportunity to acquire qualifications at EQF levels 4 and 5 and to study for a bachelor's degree. It also provides counselling support, which is of paramount importance for integration programs.

Result 4.8 „SME-fair digitalization" & Trainings teacher digital Skills

The development and implementation of vocational training, continuing education and higher education measures will also need to comprehensively incorporate digital

technology and solutions. In this context, there is a fundamental risk that digital technologies will simply be transferred from the large-scale economy that do not justice to the specific conditions of SMEs. For this reason, a brief concept on SME-fair digitalization is presented.

Likewise, digital teaching and learning methods will have to be used in the implementation of educational measures. Since many teachers have no or insufficient skills in this regard, two train-the-trainer programs were developed, practically tested, evaluated, finalized and implemented.

Result 4.9 Trainings Energy Saving and Renewable Energies

A central theme of the green economy concerns the Energy sector. There is a very high demand for qualification and information in this regard among owners and employees as well as homeowners. Accordingly, five existing training programs were prepared and transferred. In line with regional needs, COVE Germany and Poland developed and implemented three further specific training programs. Result 4.9 includes curricula, teaching materials and implementation reports for these eight training programs.

Result 4.10 Specific trainings in the Green Economy

The outstanding goal of the 3LOE project is that the eight centres of vocational excellence founded in the course of the project dedicate themselves to qualifications in the green economy at a high-quality level. Once the COVEs had started their work, they increasingly received information and reports from public administrations, business and innovation promoters, educational institutions and companies on urgent needs for additional further training measures for which there was a particularly high demand in the respective region. In order to meet these needs, the COVEs Austria, Germany, Lithuania, Italy and Poland have developed and implemented curricula and teaching materials for corresponding training programs and transferred them to all other COVEs, which are summarized as Result 4.10 Specific Trainings in the Green Economy.

Result 4.11 Regulations for new continuing education occupational profiles

The 3LOE project emphatically pursues the goal of strengthening and intensifying continuing vocational training. A very important aspect of this is the creation of nationally and internationally recognized official further education qualifications at EQF

Level 5. Of the participating countries, only Germany has such qualifications. For this reason, the 3LOE project worked on:

a) The development of a concept for the realization of officially recognized further education qualifications in Austria.

b) The realization of first official further education qualifications with national recognition.

c) For corresponding realizations in other countries, development of a guide for the creation of official further education qualifications.

The results were transferred to the other COVEs in order to realize official, nationally and internationally recognized further education qualifications in all participating countries.

Work Package 5 Third center level "Higher education"

Result 5.1 Dual Bachelor Degree Programs

Small and medium-sized enterprises need highly qualified entrepreneurs, managers and specialists who have comprehensive theoretical knowledge and equally practical skills and experience. For this reason, dual Bachelor's degree programs are to be implemented in all eight Centers of vocational Excellence as part of the project, combining vocational training and several years of work with a recognized Bachelor's degree. To this end, dual Bachelor's degree programs were developed, transferred to all seven COVEs and implementation advice was provided here.

a) Business Administration and Sustainable Management for SMEs

b) Management of Renewable Building Energy

c) Business Administration for SMEs

COVE Lithuania has carried out implementations. Comprehensive piloting was carried out by COVE Austria with all regional chambers of commerce for the introduction and implementation of dual study programs.

Result 5.2 Green Economy study modules

Students of technical and business study programs are expected to be trained in SME-related green technologies and skills in technologies and management in the fields of water/sewage/waste treatment and in Circular Economy. Relevant study modules

were developed, tested and evaluated, which are integrated into existing Bachelor's degree programs or offered as continuing education courses.

Result 5.3 Innovation support and R&D projects for SMEs

In direct connection with the implementation of further trainings and dual Bachelor programs, innovation support for companies were realized. For this specific support of enterprises, a concept is presented which were applied and evaluated during the project period in connection with the testing of the education programs. The result includes an SME-specific funding concept, implementation reports and an evaluation concept and report.

Result 5.4 Train the Trainer Program for university lecturers and SME consultants

A train-the-trainer program for teaching staff from universities and SME consultants was developed, implemented, evaluated and finalized on the basis of the evaluation results. This educational program is characterized by the interlocking of vocational training (representing practice in the broadest sense) and academic training (representing theory and science in the broadest sense). At the same time, competences for the cooperation with SMEs and for the promotion of innovations are imparted.

Result 5.5 Dual Bachelor “Entrepreneurship & Innovation in Green Economy”

Two dual Bachelor's degree programs in the Green Economy have been developed. The study program "Entrepreneurship & Innovation in Green Economy" from COVE Latvia. COVE Lithuania developed the "Electrical and Automatic Equipment" study program, which was implemented during the project period.

Result 5.6 Dual Bachelor program “Logistics - Green Supply Chains”

COVE Poland developed and implemented a dual Bachelor's degree program in "Logistics - Green Supply Chains". The result contains a concept and curriculum, an implementation report and an evaluation concept and report. The dual program in the field of Logistics in the field of Green Supply Chains is designed to educate candidates for positions in management and task teams in enterprises of the broadly understood logistics sector.

Result 5.7 Dual Bachelor program “Sustainable Building System Technology”

COVE Austria developed and implemented a dual Bachelor's degree program in "Sustainable Building System Technology". The training program provides a completed vocational training in relevant professions as well as comprehensive theoretical knowledge and practical work experience in sustainable building system technology. Graduates are highly valued as highly qualified managers and specialists in companies. The result includes a concept and curriculum, an implementation report and an evaluation concept and report.

Result 5.8 Tutorial and dual Bachelor Program “Sustainable management Climate neutrality for companies”

COVE Austria developed one curriculum for a tutorial and another curriculum for a dual Bachelor degree program “Sustainable management Climate neutrality for companies”. The second curriculum was designed to offer comprehensive, specialized factual and theoretical knowledge for a completely new type of bachelor’s degree in Austria as a new professional further education in the field of sustainable management, with a focus on climate neutrality for organizations - especially for small and medium sized enterprises. The result includes two curricula and an evaluation concept.

Work Package 6 Quality Management

Result 6.1 Quality plans

Quality management: Concepts and plans for quality assurance and evaluation of educational and support measures as well as transfer processes and implementation, cooperation in the centres of vocational excellence and overall project implementation.

Result 6.2 Result report of all evaluations and assessments

The result summarizes the results of the quality assurance and the evaluations of the transfer of results and the implementations, the cooperation in the project consortium and the overall project implementation, including conclusions and recommendations in a final chapter.

Work Package 7 Dissemination and implementation advice

Result 7.1 Manual

The manual includes a presentation of the project and in particular the most important project results with application notes for future use. The manual is published

in the Baltic Sea Academy series and is distributed via bookshops. It is also available online.

Result 7.2 Transfer, implementation consulting & further disseminations

The dissemination activities are very important for the 3LOE project. A strategic plan lists all planned dissemination activities, target groups, channels and indicators. This dissemination strategy plan serves as a reference framework for identifying, monitoring and evaluating the dissemination measures. In addition to the strategy plan, the report summarizes the results of the dissemination activities in which all project partners were intensively involved.

Center of vocational Excellence

The following concepts, models, tools and curricula were developed and implemented for the establishment and development of the eight Centres of Vocational Excellence (COVE) and for transnational cooperation.

1. Analyses of the economy, demographics, education and labour markets and qualification requirements for the seven partner countries.
2. Concept and models for the structure and development of the COVE and transnational cooperation as well as for their evaluations.
3. Information and co-operation tools for regional and international co-operation.
4. Business and financing plans for the long-term continuation of the eight COVEs and the transnational platform.
5. Analysis of EU funding opportunities.
6. Political strategy program for vocational training and development of COVEs
7. Training program for personnel and centre management.
8. Conception for a summer school.

All results, which can be used free of charge without restriction, are published on the project website www.3-loe.eu.

1 Design and Structure of three-level Centers

1.1 Challenges and objectives

There is a tremendous need to emphatically improve the quality and intensification of vocational education and training. In a number of the countries participating in the project there is a shortage of personnel, spatial and technical capacities. In the interest of vocational schools and training centers and their teaching staff themselves, but also in the interest of economic development, securing existing and creating new jobs, strengthening innovation potential and productivity and reducing high unemployment,

existing vocational schools should be developed and expanded into centers of excellence.

Central bottlenecks for further development of small and medium-sized enterprises concern the rapidly growing shortage of young entrepreneurs, managers and skilled workers, the need for product and process innovations as well as the lack of innovation promotion tailored to the specific needs of SMEs. In order to remove these barriers to growth, existing vocational schools, Trainings centers and colleges should be expanded into three-level centers of excellence.

Education represents the biggest bottleneck and the strongest growth area of the future. Qualified specialists are the most important prerequisite for taking advantage of the market opportunities. For example, a survey carried out by Hanse Parlament led to the following results:

- In 10 years 40% of SMEs will need company's successor
- 70% of SMEs need additional skilled workers
- 100% of SMEs cannot recruit the specialists they need or can do it with difficulty
- In the medium term 78% of SMEs need new or additional executive staff
- 96% of SMEs would like to see better practical, and 74% better theoretical vocational education.

Overcoming the major challenges in the areas of energy, climate and environmental protection requires extensive reorientation and forward-looking innovations. These tasks must be mastered by SMEs against the background of the following problems:

- Blatant and growing shortage of skilled workers, which has a particularly strong impact in the Green Economy, as there is a high and growing need for additional skilled workers.
- Pronounced qualification deficits, especially in the Green Economy.

- Loss of attractiveness and poor qualifications, especially in school-based vocational training.
- Low rates of further training, a lack of technical and personnel cross-company capacities and insufficient orientation of the offers to SME needs.
- An aging business community and a high, growing shortage of young talent.
- Failure of company handovers and too low business start-up rates, primarily due to a lack of entrepreneurs.
- Low innovation rates and insufficient productivity.
- Too little cooperation between the colleges / universities and SMEs and a lack of orientation in teaching and research towards SME needs.
- Comparably low internationalization of SMEs and many providers of vocational training.

To meet these challenges, a regional center of professional excellence in the Green Economy is being set up and operated permanently in each of the seven project countries. The three-level centers are intended to perform vocational training and innovation support tasks for SMEs at the following levels:

- First Level: Vocational training (EQF Level 3 and 4)
- Second Level: Further training (EQF Level 4 to 6)
- Third Level: Higher education (EQF level 6 and 7)

In order to be able to fulfil these tasks, the centers of excellence function as a cooperative network of vocational schools, chambers of commerce with their training and further education institutions and colleges / universities (without necessarily establishing a (new) centre). The cooperation is coordinated by one partner. Each location / part is independent and economically autonomous. In terms of cooperative collaboration, the goal is not to develop fundamentally new systems, but to build on and develop existing cooperation mechanisms in each country.

A transnational cooperation between the centers of the seven countries is being developed, expanded by 70 educational actors from 14 countries and operated permanently in an institutionalized form.

The 8 centers of professional excellence in the Green Economy will pursue the following objectives:

- Consistent introduction of work-based learning through the implementation of dual education at all three levels of vocational training, further education and higher education.
- Through dual education and new, tailor-made qualification programs, a significant increase in the skills and competencies of entrepreneurs, managers and specialists in SMEs.
- Due to the lower number of young people in vocational training as a result of demographic change and the introduction of dual education, personnel, spatial and technical capacities are freed up in the vocational schools, which may under no circumstances be withdrawn from the educational sector. Rather, they are used to build up the urgently needed capacities in continuing vocational training.
- Existing technical and spatial capacities of the vocational schools, chambers of commerce and universities are practically used jointly for all tasks and result in an increase in capacity for the performance of tasks at the individual educational levels.
- Through the overarching cooperation, knowledge transfer, innovations and quality of the educational offers are sustainably strengthened. For example, university lecturers participate in the development of curricula in vocational training and further education or provide teachers for further education measures. Vocational schools contribute their experience and contribute to the implementation of dual study programs. Chambers convey the needs of SMEs

at all educational levels and involve them as training partners in the dual implementation.

- At all three levels of education, management, teaching and administrative staff are trained to perform their tasks. These train the trainer programs are carried out on a permanent basis by the colleges and universities involved, so that sufficient qualified staff is available in all regions.
- With the creation of a uniform, continuous system of vocational training, further training and higher education, a very high degree of permeability between vocational training, further training and higher education is achieved. At the same time, the recognition of competences already acquired on the qualifications of the next level is actually implemented in practice.
- Maximum permeability and crediting of already acquired skills lead to a sustainable increase in the attractiveness of vocational training, so that additional entrepreneurs, managers and specialists can be won.
- Permeability and recognition of competencies as well as the attractiveness and quality of professional training are comprehensively promoted through the development of official training professions. For this purpose, legally binding ordinances are being developed for new advanced training professions with a focus on the Green Economy, which lead to recognized educational qualifications at EQF Level 4 and 5.
- Through specific educational programs and targeted support for young people with learning difficulties on the one hand and young people with strong learning skills on the other, differentiated offers are created for everyone in vocational training, the number of participants is increased and the urgently needed young people are made available to SMEs.
- Companies, colleges / universities and chambers of commerce are training partners in the dual further and university education programs. This intensive

cooperation is used at the same time to effectively promote innovation in SMEs

- Small and medium-sized enterprises suffer from bottlenecks in operational management and information processing. They need tailor-made services - without delay and from a single source. Networks are of outstanding importance to them. Unlike large companies, they cannot have internal staff functions that perform a wide range of corporate management tasks. In the SME sector, such staff functions and support tasks must be performed externally. The centers of excellence are the central service providers who, through cooperation between vocational schools, chambers and universities, provide SMEs with the necessary reliable support tailored to the company and from a single source, thus offering monetary benefits.

To achieve these goals, the tasks, structures, and organization for the eight centers of vocational excellence are described below. They are intended as guidelines that must be adapted by the individual centers in accordance with national conditions and legal foundations. For example, regarding the way how the VET excellence centres should operate, how collaboration among VET institutions, HE institutions and Chambers should be ensured, how dual approaches should be implemented. These national adaptations ensure the feasibility of the planned implementations, provided that specific basic elements are adhered to. Ongoing discussions are being held with project partners on the basic elements that should be adhered to wherever possible, how adjustments can be made, and coordination with relevant authorities at the national level to ensure full information sharing and compliance, as well as the smooth running of the project.

1.2 Tasks, structure and organization

The innovative strength of SMEs is strongly limited by the availability and qualification of entrepreneurs, managers and specialists. Due to the lack of qualifications and shortage of entrepreneurs and employees, innovations in SMEs are already much lower than they actually could and should be. At the same time, qualification requirements are becoming higher; alongside specialized knowledge, personal and social skills are gaining equal importance. However, the so-called soft skills require a great deal of catching up and development. Improving qualifications and eliminating the shortage of skilled workers is the most important task and the central key to sustainable strengthening of innovation capacity, competitiveness and growth of SMEs. The most important tasks of the centers of excellence in this respect include in particular:

- Improving the quality and attractiveness of vocational education and introduction of dual education system.
- Career guidance and integration of young people with learning difficulties and social disadvantages.
- Integration of all young people and creation of specific training courses for school leavers with practical talents.
- Carrying out courses for strong learners with the provision of additional qualifications in innovation-oriented topics.
- Strong intensification of vocational further training.
- Qualification of managers and entrepreneurs, in particular through training as master craftsmen or technicians.
- Strengthening innovation capacity through comprehensive promotion of increased employment for women and older people and entrepreneurship for women.

- Carrying out dual Bachelor's degree programs in which studies are combined with parallel relevant vocational education in order to meet the high demand for innovative entrepreneurs and managers for SMEs.

In a region, the centers of excellence must cover all areas and topics relevant for SMEs on the basis of job-sharing. They should be operated in close cooperation with vocational schools, economic chambers and associations as well as with universities in order to jointly carry out educational and counselling tasks, such as:

In Level 1 Vocational education

- Comprehensive career counselling for young people and their parents.
- Providing regular vocational school classes within the framework of dual vocational education.
- Extensive qualification, support and counselling tasks for young people with learning difficulties or social disadvantages who until now have been pushed away and who get integrated into regular vocational education via these channels.
- Development and implementation of special staged vocational education courses for people with learning difficulties in cooperation with companies
- Development and implementation of vocational education courses for strong learners who receive additional qualifications and early further trainings in the centers of excellence with a scope of 500 - 700 hours already during the vocational education.

In Level 2 Further training

- Training the trainers in companies and accepting the trainer aptitude examination in order to enable companies to provide vocational education within the framework of dual systems.

- For persons with completed vocational education, training to become a technician or master craftsman while at the same time obtaining a qualification enabling one to attend university.
- Execution of business start-up courses and accompanying consultation by business founders up to the establishment or takeover of a business.
- Demand-oriented development and realization of further training programmes covering all relevant aspects of the strongly growing need for further training of entrepreneurs, managers and skilled workers.
- Targeted further training for women and men during the family phase as well as qualification and counselling tasks during the re-entry into the working life.
- Conducting further training and counselling programmes for older people
- Carrying out retraining, qualification and integration measures for the unemployed together with employment services.

In Level 3 Higher education and innovation promotion

- Together with colleges or universities, vocational schools as well as with companies, realization of dual study programs.
- Ensuring the exchange of information and experience as well as the transfer of knowledge and technology in writing and electronically, and in particular through the personal exchange which is so important for SMEs, in the form of meetings, information and training courses, group coaching, etc.
- Comprehensive promotion of innovations for SMEs as well as implementation of R&D tasks in and with SMEs.

Within the framework of dual study programmes, the training locations "college/university" and "company" must cooperate intensively with each other. This is also an excellent foundation for the mutual exchange of knowledge and for the promotion of innovations of SMEs.

About 40% of the courses offered at the college/university are run by practitioners, ensuring that there is constant exchange of experience, and that entrepreneurial thinking is carried into the colleges/universities.

The participants of dual study courses are at the same time apprentices/employees in companies. The topics for Bachelor and seminar papers that the student must complete in order to obtain his or her degree are determined by the companies in consultation with the full-time professors/lecturers and dealt with within the company. In this way, tailored development work and knowledge transfer for the companies are realized by the students in cooperation with professors, lecturers and other teaching staff directly in the company. On the basis of this intensive cooperation, it is much easier to jointly identify R&D tasks of SMEs, to design concepts and to carry out tailored R&D projects in and with SMEs.

In carrying out the comprehensive tasks, the personnel, technical and spatial capacities of vocational schools, colleges/universities and chambers of commerce are used on the basis of job-sharing. The spatial and technical capacities are used simultaneously for all tasks of the centers of excellence, for example modern technologies in the training workshops during the day for vocational education and in the afternoons, evenings and weekends for further vocational education and technology transfer. This achieves high-capacity utilization and profitability and ensures mutual benefits and strengthening effects in the performance of various tasks.

The development of centers of excellence requires high public investments, which, however, are offset by considerable savings in vocational education through the implementation of dual education systems. Additionally, it will achieve effective promotion of education, innovation and business, which will pay off in several ways through higher growth with rising tax revenues on the one hand and savings of public funds in labour market and social policy on the other.

It is much more appropriate and economical to use the facilities of the existing vocational schools for this purpose than to create much costlier new facilities from scratch. In this respect, the personnel, spatial and technical capacities of the vocational

schools that become available under status quo conditions are a unique opportunity that must be used actively in the interest of all.

In each of the countries involved in the project, the centers of excellence are founded by the respective three project partners: vocational school, chamber of commerce and college/university. In this regard, a partner agreement will be concluded which will agree on the rules of cooperation. A center of excellence is established as a co-operative network consisting of three locations / parts:

- Vocational school or other educational institution
- Chamber or association (with its educational institutions)
- College or university

Each location / part is independent and economically autonomous. The cooperation is coordinated by one partner. Other educational institutions, public administrations, etc. can be integrated into the center of excellence.

The centers for vocational excellence, which are intensively involved in the areas of energy, climate and environmental protection (Green Economy) with tasks of vocational education and training, further and higher education, promotion of entrepreneurship and promotion of innovations, develop lasting partnerships with companies, because all educational measures are carried out at EQF level 3 - 7 according to dual principles with the learning locations "company" and "center for vocational excellence". The chambers/associations organise and secure cooperation with companies. The activities of the centers are directed at all SMEs (according to the EU definition, companies with up to 250 employees).

Other regional institutions that are of crucial importance for vocational training for SMEs (e.g., public administrations, employment agencies, business incubators and innovation centers, etc.) are involved in the work of the centers of vocational excellence as partners or through participation in curatorial bodies or advisory boards.

The Centers of Excellence will start their work at the beginning of the second half of the project period, will be further developed in a process-oriented manner and will ensure their permanent continuation after the end of the project. To this end, the individual centers will carry out the following activities in particular:

- Development and implementation of information and cooperation tools.
- Networking and cooperation with relevant actors in the region/country.
- Expansion of the cooperative network to include other educational institutions and especially educational administrations.
- Implementation of regional events.
- Realisation of intensive transnational cooperation between the eight centres and with 70 associated partners from 14 countries.
- Development, testing and evaluation of training program for personnel and center management.
- Development of business and financing plans for each center of professional excellence.
- Towards the end of the project, development and conclusion of a binding agreement for the permanent continuation of the center of Excellence.

Coordination by Hanse Parliament, a transnational cooperation between the seven centers of excellence is being established and developed, with ongoing exchange of information and experience, transfer of knowledge and best practice, implementation of development work based on division of labour, joint implementation of train-the-trainer programmes, 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 concerns the joint implementation of educational programmes, e.g., Bachelor's programmes 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 are intensively involved, and short internships and study visits are organised in centers in other countries, especially in the more advanced countries Germany and Austria. In addition, teachers sit 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 initial experience can be gained, contacts established, and international co-operation opportunities explored.

In the plans and binding resolutions for the permanent continuation of the 8 centers of vocational excellence, active promotion of the mobility of teachers, staff and learners as well as of international cooperation between SMEs are explicitly stipulated as mandatory tasks.

2 Compliance with the EU vocational education and training priorities¹

1. The concept “Development and permanent operation of regional centers of excellence and transnational platform” (hereinafter – Concept) addresses high level priorities of the European Union (EU) vocational education and training (VET) policy. The new EU VET policy framework - the Council recommendation on VET for sustainable competitiveness, social fairness and resilience (adopted on 24 November 2020)² and the Osnabrück Declaration on VET as an enabler of recovery and just

¹ Prepared by National Centre for Education, Latvia

² Council recommendation on VET, Vocational education and training (VET) for sustainable competitiveness, social fairness and resilience 2020/C 417/01, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32020H1202%2801%29>

transitions to digital and green economies (endorsed 30 November 2020)³ define the VET policy priorities for the years to come.

The proposed Concept clearly addresses the key issues of the present EU VET policy. Namely, the VET Recommendation invites the Member States to work towards implementing their VET policy in order to: (a) equip young people and adults with the knowledge, skills and competences to thrive in the evolving labour market and society, to manage the recovery and the just transitions to the green and digital economy, in times of demographic change and throughout all economic cycles; (b) foster inclusiveness and equal opportunities and contribute to achieving resilience, social fairness and prosperity for all; (c) promote European vocational education and training systems in an international context so that they are recognised as a worldwide reference for vocational learners and (d) achieve by 2025 three quantitative objectives – among them (to be achieved by 2025) are the share of employed graduates from VET to be at least 82%, and 60% of recent graduates from VET benefiting from exposure to work-based learning during their vocational education and training; 8% of learners in VET benefit from a learning mobility abroad.

The project aims at developing and permanent operation of regional centers of excellence and a transnational platform. Thus, also the EU VET policy priority (the Erasmus+ programme in particular) regarding (the platforms of) VET centres of excellence has been addressed.⁴ The initiative on Centres of Vocational Excellence (COVEs) defines a bottom-up approach to excellence where institutions for vocational education and training (VET) are capable of rapidly adapting skills provision to evolving economic and social needs. It aims to foster transnational collaborative platforms, which would be difficult for isolated member states to establish in the absence of EU

³ Council recommendation on VET, Vocational education and training (VET) for sustainable competitiveness, social fairness and resilience 2020/C 417/01, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32020H1202%2801%29>

⁴ Centres of Vocational Excellence, https://ec.europa.eu/programmes/erasmus-plus/programme-guide/part-b/key-action-2/partnerships-cooperation/centres-vocational-excellence_en

incentives, technical support, and mutual learning opportunities. Thus, it can be concluded that the envisaged concept and approaches are in line with the very latest and most topical EU VET policy developments.

2. The project and the Concept is innovative in nature, since it aims at implementing educational measures on Green Economy, Digitalisation and Entrepreneurship in an integrated mode. It proposes to address European qualifications Framework (EQF) at levels 3-6 in a comprehensive way, which is an ambitious goal. Moreover, the focus is on SMEs which in most countries provide a considerable share of jobs (but due to various reasons may be subject to disadvantages). As stated in the Concept - 99% of all companies in the EU are SMEs, providing about 70% of all jobs. Thus, they are essential for vocational education and for securing economic prosperity and international competitiveness. Moreover, it is pointed out in the Concept that SMEs only have potential to succeed in national as well as international competition if they demonstrate the strongest innovation capacity of the highest quality. This requires outstanding qualifications. Thus, the Concept proposes measures to address these challenges in a comprehensive way.

3. It should be noted that the project aims not only at developing and implementing comprehensive measures for the development of a competitive labour force for SMEs but have a deeper insight regarding the demographic challenges that demand more proactive measures regarding the consulting and innovation support for SMEs – to enable the SMEs for competitive strategies for attracting and training the need-ed workforce.

4. It is important that the Concept is based on the analyses of the economic and demographic development, the education and labour markets, as well as the qualification needs of SMEs in the Green Economy, to provide the basis for a common point of departure for carrying out the project work. This allows for an objective starting point for the subsequent development of concepts for the establishment and permanent operation of seven regional centers of excellence in seven EU countries.

Moreover, the approach is not purely theoretical but based on the experience gained from already operating VET centers of excellence in Germany and Poland.

5. A major input for the future work is the discussions and consultations held with partners in fifteen online meetings at the beginning of the project lifetime – regarding the three main directions of activity: 1) the development and operation of the seven centers of vocational excellence; 2) the development and implementation of educational measures at EQF 3 – 6; 3) quality assurance, dissemination of all results and project management.

6. The main challenge for SMEs is clearly presented – stating that today already there is a considerable lack of qualified employees, which will significantly increase in future and thus will dramatically limit growth and innovation. It is pointed out that improving qualifications in general education, increasing the attractiveness, quality, and development of vocational education as well as further training must therefore be the main agenda and the most important tasks for SMEs in the EU.

7. Apart from challenges, also the bottlenecks have been identified - qualitative problems are intensified by quantitative bottlenecks, since the number of people leaving the job market due to their age is much higher than the number of young people entering it, due to demographic changes. This poses a significant danger especially for medium-sized companies as they might not win enough qualified staff and, at the same time, be forced into a lower qualification level.

8. The strategic approach in the project is clearly defined, pointing out the potential strength of SMEs: In principle, SMEs in EU have excellent chances to grow. However, to use these chances they need qualified personnel on a sufficient scale, which is already more and more difficult to achieve considering the overall increasing lack of qualified staff nowadays. These obstacles are especially significant since the increasing importance of knowledge-intensive services and industries is accompanied by a growing demand for qualified employees. In the field of knowledge economy, most EU countries have good structures in place and a considerable potential for development. 'Knowledge' is thus the decisive resource of the future.

9. The drawn conclusion projects the optimal place and role of SMEs in the future labour market: SMEs in general and particularly the crafts sector, should not become the sole experts of training and integration of weaker learners and people with weaker social skills. While fulfilling this socially important task, SMEs should at the same time turn towards the best ones in the society and recruit strong learners on a much larger scale. The quantitative problems, as well as the loss of qualification, concern not only the first level of vocational education and the journeyman level; they also reveal themselves even more intensely at the level of management and entrepreneurs.

10. A clear link is being provided with the higher education sector and its potential role in securing high-level staff for SMEs – pointing out the challenges and potential solutions. As stated in the concept: attracting entrepreneurs and executives from amongst graduates of universities and universities of applied sciences will have to become increasingly important. Yet, also in this case there are significant limitations. On the one hand, there is an increasing competition between all branches of the economy to attract these graduates. On the other hand, these study subjects are mostly very theoretical and scientifically oriented. Thus, the graduates are not exactly over-qualified for the management tasks in a SME, but rather incorrectly qualified. First and foremost, they are missing the practical skills, the professional knowledge as well as the ability to connect practice and theory. In many ways they are too specialized, for example in the technical or business fields. As opposed to that, executives of SMEs need to be system specialists, combining technical and professional skills with business knowledge and the ability to take care of all the management tasks.

11. There is a clear awareness regarding the need for individualised approach. It is pointed out in the Concept that the development of a profession-specific competence profile is needed, which is then matched against the carefully identified individual competencies of individual young people. For each individual occupation, different performance and suitability criteria should be determined in accordance with the actual requirements as a basis for individual competence assessment and potential analysis. The high number of dropouts during the training and the danger of occupational dead ends

are thus considerably reduced. Vocational education must consider individual skills and potential and requires extensive differentiation. Through the introduction of different levels young people with differing educational backgrounds, competences and level of academic ability get the possibility to receive education which corresponds to their skills.

12. It has also been pointed out that careful counselling and preparation for vocational education should also contribute towards considerable reduction of change and drop-out rates in vocational education which tend to be too high.

13. Attempts have been made to provide a structured approach towards levels (training schemes) for studies (level 1 to level 3, aiming at EQF levels 3-6 depending on the chosen training scheme) for the training and its content.

14. There is a strong awareness on the importance of permeability. As stated in the Concept - in such a differentiated system of vocational education a high level of permeability must be guaranteed. Each graduate of a lower level must have an unrestricted opportunity to achieve a higher level, in accordance with their learning progress and taking into account the parts of the studies that have already been completed. Also, the other way around, a change from a study course of a higher level to a course of a lower level should be possible, considering the study time already covered.

15. The preferences of the dual approach have been presented. It has been stated in the Concept that vocational education should preferably be part of the dual system which combines practical training in companies with accompanying theory studies at vocational schools, leading to a recognized vocational qualification. The theory should be taught as much as possible in conjunction with the practical training.

16. Due recognition has been given to the broader international approach for gaining a broader approach and training options. As stated in the Concept - additionally, importance must be given to an internship abroad, which should happen during the training. In addition to the general broadening of horizons, it allows the student to gain

international experience, strengthens intercultural skills, and creates new contacts and getting to know ways of working and customs abroad.

17. There is a clear awareness regarding the need for transparency. It is stated in the Concept that parts and periods of training completed abroad have to be recognized without restriction and counted towards the vocational education in the home country. This is clearly an important aspect. At the same time additional reference to the possibilities by Europass might be beneficial.

18. Quality assurance issues have been addressed and approaches might be revised in the course of the project after piloting the proposed activities, since the targets are highly ambitious and innovative.

19. Specificities of green approach have been analysed.

20. Concrete and detailed action plans for implementation of all main directions of work has been proposed.

Conclusions

The Concept “Development and permanent operation of regional centers of excellence and transnational platform” fully complies with the EU level VET policy priorities. It addresses the topical issue of centres of VET excellence proposing concrete measures for the activities to be implemented in order to ensure labour market relevant qualifications, with a focus on green agenda and especially for SMEs.

The planned activities are comprehensive, systemic and clearly described. They are based on prior discussions and analysis. The roles of partners are distributed accordingly.

An ambitious goal is set to implement a holistic approach regarding labour force development – by initial and further training schemes at EQF levels 3-6. Even though piloting of the approach may require some revision of the original plans due to some unpredictable circumstances (e.g. restrictions by existing VET systems or legal

frameworks), the piloting will allow for identifying potential bottlenecks for further systemic approaches of the proposed scheme.

An important aspect of the concept is the dual approach. Given the developments of EU member states over the past decade regarding dual approaches (implemented as apprenticeship type schemes or work-based learning), some revision of the pro-posed dual approach might be necessary, due to the existing VET systems and legal frameworks not compatible with substantial changes and also not along with the existing tradition in the project partner countries. Instead, the proposed systems could be re-considered and adapted by each project partner in order to find ways of introducing the proposed innovative solutions in a practicable way, taking into account the specific features of the national vocational training systems.

The above references to the latest EU level VET policy documents might add additional power to the Concept, given the fact that these documents address the newly emerging challenges of the global training process and labour market and the pro-posed actions have been discussed by and agreed by member states through a democratic procedure, reaching the best possible consensus on new education and training developments and measures.

3 Summary of the Implementation and Development of the COVE

Analyses of the economy, demographics, education and labor markets were carried out in all participating countries.⁵

Based on these analyses

⁵ see Result 2.1 Analyses and recommendations, www.3-loe.eu

a) quantitative and qualitative bottlenecks were investigated and concepts for the establishment and work of the COVEs as well as work plans and timetables for each COVE were developed and agreed⁶.

b) Tools, train-the-trainer programs, information and cooperation models for the work of the COVE and for transnational cooperation, including an expansion by 70 institutions from 14 countries, were developed and implemented⁷.

Six months after the start of the project, the COVEs were founded and began their work. Each COVE developed a written cooperation agreement with its partners and concluded a binding agreement.

In the course of the work, all COVEs included and implemented additional support and training measures in the work programs in accordance with the region-specific needs. Towards the end of the third project year, each COVE developed country-specific strategies for the work and in particular for the continuation of the COVE and discussed and agreed these with regional stakeholders⁸.

In addition, short, summarized reports on the set-up and development work and on the continuation after the end of the project are listed below for each COVE. For the continuation of the work after the end of the project, the financial plans for the COVEs, which are largely identical for each COVE, as well as for the future transnational cooperation, are developed.⁹

In the 3 LOE project, eight COVEs in Austria, Germany, Italy, Latvia, Lithuania, Poland and Spain were set up and developed with great success by the project partners

⁶ see Result 2.2 Three-level centres of vocational excellence "Green Economy for SMEs" and transnational platform: Part A Concept Development and Implementation of Three-level Centers of Excellence of Vocational Training in Green Economy, www.3-loe.eu

⁷ see Result 2.2 Three-level centres of professional excellence "Green Economy for SMEs" and transnational platform: Part B Development and Implementation of Information & Cooperation Tools and transnational Cooperation by involving associated Partners, www.3-loe.eu

⁸ see Result 2.4 Political strategy and action program, www.3-loe.eu

⁹ See Result 2.2 Three-level centres of professional excellence "Green Economy for SMEs" and transnational platform: Part C Implementation, Evaluation & Business Models, www.3-loe.eu

in the respective countries. Co-operation in the COVEs is based on binding co-operation agreements and, in one case (COVE DE Hamburg), on a national law. Numerous other regional and national educational institutions and organizations are involved as partners in all COVEs. All 8 COVEs work intensively with companies, especially SMEs, which contribute their needs through direct contact, help shape funding and training programs, participate in trials and carry out R&D projects with universities.

The COVEs in the individual countries have been organized in such a way that all educational tasks can be carried out at EQF level 3 - 7, namely:

- Vocational schools that provide initial vocational training in the dual system with companies, are involved in continuing vocational training and participate as educational partners in dual bachelor's degree programs.
- Chambers of Industry, Commerce and Crafts, which ensure the involvement of companies in all COVE activities, encourage companies to participate in dual vocational training and dual study programs, are particularly active in continuing vocational training and provide ongoing advice to companies.
- Colleges and universities that contribute to the development of curricula and teaching materials for initial and further vocational education and training and provide teaching staff for their implementation where necessary, as well as developing and implementation dual bachelor's degree programs in particular and providing innovation support for companies in connection with this.
- The additional involvement of ministries in the COVE of two countries (Latvia and Spain) has had a very positive effect on the work of all COVE. They have clarified legal regulations and administrative matters, played a key role in the development and implementation of legal regulations (e.g. creating state-recognized continuing education qualifications), helped develop political strategy programs and carried out evaluations.

Cooperation within the individual COVEs and internationally between all COVEs is promoted through biannual workshops, four international conferences, seven train-

the-trainer seminars, the provision of cooperation tools and models, online meetings and an ongoing exchange of experience. This support is essential, but even more effective for the development of regional and international cooperation was the simultaneous implementation of joint concrete work. Various tools and advisory programs, over 40 vocational training programs at EQF level 3 - 6 and R&D projects with and for SMEs were jointly developed and implemented.

The work was carried out in international cooperation between vocational schools, chambers with their educational institutions and universities. Partners from individual countries jointly developed tools, curricula, teaching materials, examination regulations, etc., which were trialled and evaluated in several countries in order to record different national conditions. After revision and finalization based on the evaluation results and adaptation to national conditions, the tools, curricula etc. were transferred to all eight COVEs, which received implementation advice. In this way, 36 comprehensive results were produced in the 3LOE project.

Each of the eight COVEs takes into account the respective national and regional development strategies. Based on local and regional needs and challenges, the COVEs make a decisive contribution to achieving the specific objectives and strategies for regional development, innovation and smart specialization. To this end, the individual COVEs have held numerous events, conferences, workshops and direct dialogues with the relevant regional stakeholders. Through the needs-oriented development and implementation of funding and education programs, strong effects were achieved for regional developments in accordance with the respective regional strengths and needs.

70 associated partners (chambers, associations, vocational schools and universities from 14 countries) were involved in the international cooperation of the 8 COVEs, contributing their experience and knowledge from the start of the project, taking part in workshops and conferences, advising on results and planning their own implementations. The associated partners received all results and individual implementation advice as required.

All 8 COVEs will be continued in the long term and funding has been secured. The 8 COVEs will continue to implement the education and advisory programs and develop new education programs, which have already been planned by the individual COVEs.

International cooperation between the 8 COVEs and with the 70 associated partners will also be continued in the long term; funding has also been secured for this and the Hanse-Parlament will take on coordination tasks.

Summary COVE Austria

COVE Austria is formed and supported by

- Institute for Applied Business Research of the Austrian Federal Economic Chamber,
- Economic Development Institute of the Steiermark Chamber of Commerce (coordination) and
- the Campus 02 University of Applied Sciences of the Styrian Chamber of Commerce.

All three 3LOE partners are already organizationally linked to each other via the Chamber of Commerce, and a binding cooperation agreement has also been concluded. Other educational institutions and organizations as well as numerous sectoral business associations and guilds from all over Austria are also involved at regional and national level, particularly via the chambers of commerce.

The COVE AU has benefited greatly from the 3LOE project and international cooperation and has itself developed and implemented extensive further education programs, dual study programs and recognized further education qualifications at EQF Level 5, as well as carrying out R&D projects with SMEs.

The COVE and international cooperation will continue in the long term and funding has been secured. Further partners will be included in the cooperation in the future; some have already been specifically approached and have agreed to participate. The

funding and education programs developed in the project will continue to be implemented after the end of the project. The development of new educational programs, including their financing, is already planned.

Summary COVEs Germany

In the 3LOE project, only the development of a COVE in Dresden was initially planned, which could be set up with the support of the project partners from Hamburg Hanse-Parlament and Hamburg Vocational Academy. During the course of the project implementation, a second COVE was developed in Hamburg in Germany. Both COVE cooperate intensively with each other.

Summary COVE DE Dresden

At the start of the project, the Dresden Chamber of Skilled Crafts used national funding to build extensive new premises and technical equipment for an Energy Efficiency advice and training centre. This Energy Efficiency Centre - Competence Centre for the Green Economy was developed as COVE Dresden as part of the 3LOE project. The following partners are involved through binding cooperation agreements:

- Vocational School Centre for Technology "Gustav Anton Zeuner" Dresden
- EIPOS GmbH, an institution of the Technical University of Dresden
- Risa University of Cooperative Education

The COVE Dresden works very closely with SMEs via the Dresden Chamber of Crafts. Consultancy and training programs (EQF Level 4 - 6) with a thematic focus on energy efficiency have been developed and implemented.

In international cooperation, COVE Dresden has contributed its extensive experience, curricula, teaching materials, etc. in dual vocational training and master craftsman training in particular and has provided advice on the implementation of dual vocational training by other COVEs from countries where vocational training has so far been predominantly school-based.

The long-term continuation of COVE Dresden, including funding, the further implementation of the advisory and educational programs developed in the project and the development and implementation of new educational measures are assured. COVE Dresden cooperates closely with COVE Hamburg and will also continue its international cooperation with all other COVEs and the 70 associated partners from 13 countries after the end of the project.

Summary COVE DE Hamburg

As North German universities of applied sciences and universities were not prepared to offer dual bachelor's degree programs at the time, the Hanse-Parlament approved 2005 the establishment of the Hamburg University of Cooperative Education with the Hamburg Chamber of Crafts. The Hamburg University of Cooperative Education successfully runs dual study programs for SMEs and was involved in the 3LOE project.

At the start of the project, the federal state of Hamburg decided to establish a state vocational university to run dual bachelor's degree programs, which began operating in 2023. The academic staff and degree programs of the Hamburg University of Co-operative Education were transferred to the new Hamburg Vocational University, which was included as a new partner in the 3LOE project.

The COVE principles were anchored in a law on the foundation and operation of the Vocational University Hamburg. The Vocational University is obliged to cooperate with vocational schools and to implement educational programs together with companies as training partners on an equal footing. Chambers, associations and other stakeholders are bindingly involved in the committees of the Vocational University Hamburg.

The COVE, which is thus established on a legal basis, is dedicated to the following tasks:

a) Implementation of dual vocational training (EQF Level 3 and 4) by vocational schools and SMEs with the support of the Vocational University.

b) Development and implementation of further vocational training programs (EQF level 5 to 6) by vocational schools and with other partners (chambers, associations, etc.) with the support of the Vocational University.

c) Development and implementation of dual Bachelor's degree programs by the Vocational University together with the training partners companies and vocational schools.

d) In conjunction with dual Bachelor's degree programs, innovation promotion for companies by the Vocational University.

COVE Hamburg has been very successful in developing and implementing dual study programs and carrying out R&D tasks. A new dual Bachelor program "Business Administration & Sustainable Management of SMEs" has been developed.

In international cooperation with all other COVEs, COVE Hamburg has contributed its extensive experience, curricula etc. to dual study programs. The existing dual study programs "Management of Renewable Building Energy Technology" and "Business Administration for SMEs" as well as four study modules "Green Economy" were prepared and transferred. COVE Hamburg provided comprehensive advice on implementation in countries that previously had no dual study programs, such as Lithuania. The development and implementation of other new dual study programs by COVE Austria, Latvia, Lithuania and Poland were comprehensively advised and supported.

The continuation of COVE Hamburg, including funding, has been secured. The further education courses and degree programs developed in the project will continue to be carried out, the development of new degree programs has already begun, and a new degree program is to be implemented from October 2024, or 2025 at the latest.

COVE Hamburg has developed and implemented a summer school with COVE Poland, which will be continued intensively after the end of the project and expanded to other countries. In the international cooperation with all COVEs and the 70 associated partners, the COVE Hamburg will continue to be active after the end of the project and play a significant role.

Summary COVE Italy

The COVE Italy is formed and supported by

- Trasferimento Tecnologico e Innovazione Scarl, a development, consultancy and education institution of the Northern Italian Chambers of Commerce and Industry
- Sistemi Formative Confindustria SCPA, a business association from Rome
- Emilio Sereni, a vocational school from Rome (coordination).

Colleges and universities were not initially involved. The greater distance between the partner from northern Italy and the two partners from Rome may appear to be a difficulty at first glance, but it actually proved to be a stroke of luck. Several chambers of commerce and industry, other vocational schools and various universities were involved in COVE Italy through cooperation agreements, resulting in a dense, active, large-scale COVE network from northern Italy to Rome. Companies are very intensively involved in all COVE activities via this network.

COVE Italy has dedicated itself to the following tasks in particular:

- a) Developing and introducing dual vocational training in the agricultural sector with a particular focus on the green economy.
- b) Implementation of comprehensive vocational training programs in cooperation with universities to a particularly high degree.
- c) Together with universities, implementation of Green Economy study modules and preparation for the introduction of dual bachelor's degree programs.
- d) Implementation of R&D tasks in SMEs by the universities involved.

COVE Italy is particularly interested in international cooperation with all COVEs and has benefited in particular from the development and implementation of dual vocational training and dual courses of study as well as the transfer of continuing vocational training programs.

The long-term continuation, including funding, of COVE Italy with all partners has been secured. Dual vocational training and further vocational training will continue and the implementation of dual courses of study will be actively promoted. International cooperation will also continue without restriction, and new development projects with COVEs in other countries have already been prepared.

Summary COVE Latvia

COVE Latvia is formed and supported by:

- the vocational school Profesionālās izglītības kompetences centrs "Liepājas Valsts tehnikums" (coordination).
- Latvian Chamber of Crafts.
- Rīgas Stradiņa Universitāte.
- Valsts izglītības satura centrs (National Center for Education).

The cooperation is based on binding cooperation agreements, in which the Latvian Chamber of Commerce and Industry, Riga Technical University, Latvian University and other vocational schools will be involved as the project progresses. Intensive cooperation with companies is ensured via the participating chambers.

COVE Latvia has dedicated itself to the following tasks in particular:

- a) Development and introduction of dual vocational training.
- b) Development of vocational training programs together with other COVEs
- c) Transfer and implementation of vocational training and master craftsman training to a particularly large extent.
- d) Development of a new dual bachelor's degree program "Entrepreneurship & Innovation in Green Economy", which will be implemented from October 2024.
- e) Development of political strategy programs and implementation of evaluations.

COVE Latvia has benefited particularly strongly from international cooperation, especially with regard to the transfer of curricula and the implementation of dual vocational training, the transfer and implementation of continuing vocational training programs and the development and introduction of dual bachelor's degree programs.

The continuation of COVE Latvia, including funding with all partners, has been secured. Dual vocational training, continuing education programs, dual bachelor's degree courses and R&D projects with SMEs will be continued intensively. The development and implementation of new further education programs for SMEs as well as the transfer and implementation of further dual bachelor's degree courses are already being prepared. COVE Latvia will also continue to be intensively involved in international cooperation with the seven other COVEs and the 70 associated partners from 13 countries after the end of the project.

Summary COVE Lithuania

COVE Lithuania is formed and supported by:

- Vocational school Verslo ir svetingumo profesinės karjeros centras (coordination)
- Panevezys Chamber of Commerce, Industries and Crafts
- Panevezys University of applied science

The cooperation is based on a binding cooperation agreement, in which additional partners (professional associations, local industries, VET schools and universities) were involved in the further development of COVE.

COVE Lithuania has organized a particularly large number of regional conferences, workshops, etc. with companies and stakeholders and has dedicated itself to the following tasks in particular:

- a) Development, introduction and implementation of dual vocational training.

b) Development and implementation of specific dual training programs for young people with practical talents and theoretical weaknesses.

c) Development and implementation of vocational training programs.

d) Transfer and implementation of a dual bachelor's degree program "Business Administration for SMEs" and development and implementation of a dual degree program "Electrical and Automatic Equipment"

e) Realization of R&D projects with SMEs.

COVE Lithuania has been heavily involved in international cooperation with all other COVEs and has benefited in particular from:

- Transfer and implementation of dual vocational training.
- Transfer and implementation of numerous further education programs.
- Transfer and implementation of dual bachelor's degree programs.
- Joint development and international support in the development of curricula for dual vocational training, continuing vocational training and dual bachelor's degree programs.

The long-term continuation, including funding, of COVE Lithuania has been secured. The dual vocational training, further training programs and dual bachelor's degree courses developed in the project will continue to be implemented in the future. An update of the dual bachelor's degree programs and the development and implementation of new further education programs for SMEs are already being prepared. The continuation of international cooperation with all other COVE and the 70 associated partners from 13 countries is also assured. The realization of international projects, student exchanges and teacher and staff mobility exchanges are planned.

Summary COVE Poland

The COVE Poland is formed and supported by:

- Izba Rzemieslnicza Malej i Sredniej Przedsiębiorczosci (Chamber of Crafts Szczecin)
- Zespol Szkol Mechanicznych i Logistycznych im. inz. Tadeusza (Vocational School, coordination)
- Akademia Pomorska W Slupsku

The cooperation is based on a binding cooperation agreement, which later included the Chamber of trade and industry Slupsk and the higher school of economy in Slupsk. The creation of an independent legal form for COVE Poland is currently being examined.

COVE Poland has dedicated itself to the following tasks in particular:

a) Transfer and introduction of dual vocational training and development and implementation of dual vocational training programs "Electrician" and "Fitter of fixtures and fittings in building industry".

b) New development and implementation of a five-year dual technician training program "Ecologic Solutions in Logistics".

c) Transfer and implementation of numerous vocational training programs.

d) Transfer of the system of dual bachelor's degree programs and new development and implementation of a dual degree program "Logistics - Green Supply Chains".

e) Development and implementation of a summer school together with the Hamburg University of Vocational Education.

COVE Poland is particularly involved in international cooperation and has benefited in particular from:

- Transfer and implementation of dual vocational training.
- Transfer and implementation of further education programs.
- Transfer and implementation of dual Bachelor programs.

- International summer school.

The continuation of COVE Poland, including funding, is assured. All educational pro-grams developed in the project will also be implemented in the future. The planning and preparations for two new dual study programs "IT" and "Security Sciences" as well as the development and implementation of a new five-year technician training program are already well advanced. The continuation of international cooperation with all other COVE and the 70 associated partners is also assured. International cooperation is being continued intensively with own resources, concretely planned are new projects, new initiatives (e.g. student exchange) and new networks.

Summary CVOE Spain

COVE Spain is formed and supported by:

- Departament D'educació-Generalitat de Catalunya (Ministry of Education of Catalonia)
- Institut Pere Martell (vocational school, coordination)
- Sociedad General De Aguas De Barcelona S.A. (large national and international water management company that develops and organizes many vocational training courses)

The collaboration is based on a binding cooperation agreement. At the start of the project, no university or chamber of commerce was involved in COVE Spain. In the course of COVE's development, COVE work was incorporated, and binding co-operation agreements were concluded with Tarragona Chamber of Commerce and Industry and with the Universitas Rovira i Virgili.

COVE Spain has dedicated itself to the following tasks in particular:

- a) Transfer and introduction of the dual system of vocational training and development and implementation of the dual training program "Electromecanico".

b) Transfer and implementation of additional qualifications for young people with strong learning skills during vocational training.

c) Transfer and implementation of many further training programs in the green economy.

d) Conducting manageable R&D projects for SMEs.

COVE Spain is extensively involved in international cooperation with all other COVEs and has benefited in particular from the transfer and introduction of the dual system of vocational training, the transfer of further training programs and from joint development work.

The long-term continuation of COVE Spain, including funding, has been secured. Dual vocational training will be continued and extended to other professions, the further training programs developed will also be implemented in the future and the realization of dual bachelor's degree courses will be examined together with the university involved in the COVE.

COVE Spain is very interested in international cooperation and will continue to be heavily involved in this in the future.

Experience with three-level COVE

Three main actors (vocational schools, chambers and universities) are involved in the work of the Centres of Vocational Excellence together with a wide range of local partners, such as other vocational education and training providers, enterprises, research centres, development agencies and employment services (among others) developed "competence ecosystems" that contribute to regional, economic and social development and far-reaching promotions for SMEs.

All COVE partners report that the cooperation between vocational schools, chambers and universities is extremely enriching with strong cross-fertilization aspects. According to the experience of the project partners, the three-stage COVE structure with

the inclusion of universities and full coverage of EQF levels 3 to 7 is essential for the following reasons.

- In order to attract enough skilled workers and young entrepreneurs, the attractiveness of vocational education and training must be significantly increased. A central starting point for this is the creation of complete permeability between vocational and higher education as well establishing a framework which will allow the crediting and recognition of already acquired competences within various EQF level courses.
- More and more school leavers want to pursue higher education - especially at the strong insistence of their parents. This massive demand for skilled workers has not been filled due to the general view that vocational further education degrees are considered by many to be “pseudo-university degrees”, for example, comparing the vocational master craftsman training with the degree "Bachelor professional".
- The competence requirements for entrepreneurs and skilled workers are high and growing. However, SMEs are only able to attract a very limited number of new recruits from the large number of conventional courses study graduates, because although they are theoretically well qualified, they do not have the urgently required practical skills and professional experience. With dual courses of study, which combine vocational training with a bachelor’s degree, or with trial courses of study, which combine vocational training, further education and higher education, SMEs can attract and gain the urgently needed next generation of highly qualified entrepreneurs and skilled workers and can over-come the excessive shortage in this respect.
- Traditional courses of study have high drop-out rates, for example in Germany over 30% on average and in technical courses even over 50%. In combined vocational and higher education courses the dropout rates are demonstrably reduced. And the remaining, much smaller proportion of dropouts in dual study programs obtain at least a vocational qualification.

- In a number of EU countries, for example in Poland and the Baltic states, the human, spatial and technical capacities for continuing education are severely limited. These existing bottlenecks can be overcome by involving colleges/universities in CVET.
- New learning content and methods need to be urgently implemented in vocational education and training. This makes it essential for universities to be involved in the corresponding development and implementation work, and for teachers to be appropriately qualified.
- In SMEs there is a great need for research and development in general and for its' realization with the help of digital technologies in particular. In this regard, colleges/universities must be strongly committed and make decisive contributions to solutions.
- Collaboration between universities and small and medium-sized enterprises (SMEs) has been far too limited to date, and there is a great need for assistance and support in SMEs. In connection with dual courses of study, in which SMEs are equal training partners of the universities, comprehensive and precise innovation promotion of SMEs by universities can and must be realized at the same time.

4 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 in-volved 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 analysed 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 trialled 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 trialling 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 eight 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 labour, 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 pro-grams, 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 13 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. They continuously contributed their wishes, needs and conditions to the project work and received all project results and consultations for implementation. This ensured that the 70 associated partners from 13 countries, as trans-fer recipients and implementation partners, use the project results themselves in their countries/regions and implement them on a permanent basis.

Following the ex-ample 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.

5 Vocational training strategies and EU funding opportunities

All eight COVEs and the transnational cooperation will be continued permanently after the end of the project. To this end, written cooperation agreements,

business and financing models were developed, discussed and bindingly agreed. The comprehensive evaluation results and recommendations that were developed for each of the eight COVEs as part of the quality assurance process will be implemented in future work. A strategic programme for vocational education and training was developed as an important basis for the further development of content, and funding opportunities from the European Union were analysed.

5.1 Strategy program for vocational training

The attractiveness of vocational training is very low, especially in countries with school-based vocational training. The negative image of vocational training has led to the situation where studies at an institution of higher education look attractive; the share of students is correspondingly high, while the share of participants of vocational training has achieved a distressingly low level. However, also in the countries with dual training its attractiveness has definitely decreased. Vocational training is often regarded by parents and their children as a diversion or even as a dead end of carrier. A distinct image improvement of vocational training in general as well as especially compared to higher education is urgently required.

The increase of attractiveness of vocational training can be also achieved if there is enough information about the variety of possibilities and ways of vocational training. A dense network of information points must be implemented which would reach all the parents and young people if possible. Concentrated action of various institutions is deemed expedient, for example, general education schools, vocational schools, employment agencies, chambers, unions, occupational and career advisors which approach parents and young people on a uniform basis and provide comprehensive information and consultations concerning vocational training.

Young people must be clearly shown the opportunities of dual vocational training. Almost more than 70% of young people chose education and occupation according to their parents' desires. Therefore, parents must be intensively addressed and convinced about advantages of dual vocational training. The principal objectives for sustained campaigns must be the following: improvement of prestige of vocational training, attraction of families and corresponding motivation of young people.

In the meantime, in the countries with school-based vocational training numerous pilot projects related to implementation of dual vocational training were conducted. But the results which are very positive in every respect are hardly known. Intensive dissemination of such project results is urgently required. Institutions which conduct such projects should receive sustained support and additional budget for the dissemination of project results. Effective models developed within the framework of such projects must be used on a broad basis. For this purpose, specific funding programs should be created exclusively for the implementation of already successfully tested models.

This comprehensive program includes ten strategies for vocational training and labour market that are out of render importance for the design of social and economic development, strengthening the competitiveness of the EU as well as for the promotion of SMEs.

5.11 Strategy: Improved general education

General education schools should not be an isolated place of learning that is not intensively involved in the social and economic environment. On the contrary, a school as a learning place must be strongly interwoven in decentralised structures, to be a central place of daily life for everyone; those should have sponsorships with

companies that include master craftsmen and trainers from the enterprises in the teaching course.

For students' future career it is additionally advantageous when elements of vocational education are taught in general schools. In this way, interest in vocational education and training can be increased and a wide spectrum of learning possibilities for all young people with different abilities is shown up. This is a promising approach to encourage all young people and people of all abilities.

Furthermore, schools should not give increasingly specialised knowledge, in the case of which growing material abundance requires more feedback. It is important to learn how to learn, how to promote individual strengths and thus strengthen confidence. Schools must prepare young people for life, not to a specific occupation. Polytechnic orientations should enable learning through the productive activity, entrepreneurship, independence and promote students' personal responsibility.

The mediation of a broad base of knowledge should be prioritised. A specialisation can be taught at secondary schools, studies and during vocational training. The decisive factor is a good mastery of basic cultural techniques: languages, writing, arithmetic, and reading. In addition to the intellectual skills also artistic and manual skills need to be supported.

General educational school system needs to promote particular personal-social skills. For this purpose, hardly specific subjects are required, but education and learning develop these skills and qualities naturally. Students, who learn in the class together and from each other experience different strengths and weaknesses, develop tolerance, respect and cooperation skills. Individually applied education with specific learning objectives and steps also promotes self-confidence, trust in each other as well as a sense of achievement and motivation. Independent learning in practical action and the required separation in different groups of people promote independence, communication skills, placing in the overall context and mediation of meaning. Through project and group work, students can practice problem

solving in a team and are trained in the autonomous learning. Besides the academic achievements by the end of basic education, social behaviour will be evaluated.

Within the framework of general school education, it is still necessary to provide students with comprehensive information concerning the possibilities of vocational training, particular professions, requirements and future opportunities. Close contact with companies and institutions of economic self-management, presentations of companies, masters and trainers facilitate the information and identification process. Repeated internships and experience in entrepreneurial skills should be mandatory for all students.

The guidance requires significant intensification. This should be addressed not only in formal entry requirements and conditions such as school degree and grades. More important is the development of job-specific competency profiles, which are then compared with the carefully determined individual skills of each young person. Also, a careful consultation and preparation for vocational training must achieve a significant reduction of too high ratios of exchanges and dropouts in professional training.

5.12 Strategy: Realization of competent professional advice

Due to demographic development, there is a strongly increasing lack of young people in SMEs of all the Baltic Sea Region countries. The attraction of qualified young specialists becomes the matter of survival for SMEs. The best way for SMEs to secure the availability of young specialists is own vocational training as well as dual courses.

It is often difficult for young people to choose the most appropriate profession or training according to the individual skills. They hardly know their own competences or anything about requirements, competence expectations etc. of various occupations as well as about special conditions in SMEs. Moreover, vocational and

academic counselling is mostly not sufficient and available information online too unmanageable. On the one hand, in the consultation they consider individual competences of young people to a very little extent, and on the other hand, the requirements of the labour market, competence requirements, educational backgrounds etc. of various occupations, especially of SMEs. Career guidance must be developed further and intensified; thereby there is a basic problem that using existing tools teaching staff cannot inform about all the professions in a comprehensive and targeted manner.

In the vocational training in 25 – 30% of cases the training is abandoned, or the occupation is changed during the training; especially high rates are to be found in the field of crafts. High dropout rates are present also in studies at the amount of about 30% on the average, in separate technical courses more than 50%. Unfortunately, through the misdirection the image and especially the quality of vocational training are suffering.

About 20% of school leavers are regarded as incapable to complete vocational training although these persons have no doubt specific strengths. Through competence-oriented analyses and expert consulting a big part of these young people can be conveyed vocational education.

In the time, young people are searching for personal career their parents play a vital role. According to research decisions related to the profession are made by parents in about 70% of cases. The satisfaction of parents choosing a specific school form, a specific vocational training or a specific field of study is an important asset. However, children may not be robbed of their childhood, and it may not be planned by adults. They require enough free space for self-development, personal discovery of the world, for the individual adventure and gathering own experiences. The parents' right of choice may not lead to the situation where children and young people based on false ambitions or misjudgements are kind of pressed in educational forms and courses and everyday experience there that they are unwelcome and not loved. Such young people constantly gather only negative

experiences and failures; they lose trust and can be integrated in the working life only with difficulties.

By all respect for the freedom of choice also individual strengths, potentials and learning progress should be considered as determining factors in making transactions to further educational courses. Already during school education in upper classes and graduation classes comprehensive information must be provided in relation to possibilities of vocational training, separate occupations, preconditions and future opportunities. Close contact with enterprises and institutions of economic self-management, presentations of enterprises, masters and trainers support the information and finding process. Repeated internships in companies and practices' days at an enterprise must be obligatory for all the pupils.

Career counselling requires definite intensification. Thereby formal conditions and entry requirements such as school-leaving qualifications or any certificates shouldn't be considered as the only factors. More important is the development of occupation-specific competence profiles which are then compared with carefully determined individual competences of separate young people. Also, through careful consulting and preparation for vocational training a distinct decrease of far too high transition and dropout rates in the vocational training must be achieved.

For each separate occupation uniformly for the whole Baltic Sea Region according to the actual requirements different high performance and eligibility criteria should be determined and transparently reasoned as a basis for individual competence assessments and potential analyses. These criteria help the trainers and the trainees; enterprises gain employees which are adequate for the task, and young people have senses of achievement which have a positive influence on their further development and motivation. There is a significant reduction in the high number of training dropouts and in the danger of ending up in an occupational cul-de-sac.

Comprehensive consultations and support in career choice and identification already during general education should become important tasks of vocational schools. They can use their differentiated knowledge in professions and also use

their close contacts with enterprises which they must inevitably establish within the framework of the dual vocational training for the conveyance of practical work experiences.

For the expert counselling in the field of occupations there are specific vocational navigators which

- analyse and systematically register requirements, competence profiles etc. of specific professions as well as conditions at the labour market,
- individually and reliably determine competences and qualifications of young people,
- align demanded and offered competence profiles,
- on this basis enable expert occupational and study counselling.

Using a vocational navigator

a) misdirection's of young people are avoided and drop-out and transition rates are definitely reduced.

b) young people which previously didn't have a chance reach vocational training and social exclusions are destroyed.

c) SMEs better and easier gain urgently required young specialists.

d) better interlocking between education and the world of work is achieved and transitions are organized in a smoother manner.

e) image and quality of vocational training and also of dual courses can be increased.

Vocational navigator is used by transition from general education school system to vocational training and concerns schools, vocational schools, educational enterprises, high schools/universities with dual courses as well as chambers as competent authorities and promoters of vocational training. It improves cooperation between these institutions in a sustainable manner, creates intensive cooperation and

interlocking between school and economy with the orientation at the needs of the labour market.

5.13 Strategy: Dual Vocational Education

Vocational training must preferably ensue in the dual system which combines practical training in the enterprises with accompanying theoretical courses in vocational schools and ends with a recognised vocational education degree. For school-based vocational training, practical learning activities under field conditions and corporate learning times should include at least 70% of the total training time. The mediation of theory should be possible alongside the practical training. In the case of larger theoretical issues which require related presentation, longer teaching blocks can be chosen to provide theoretical training to a certain extent.

The teaching of the theory (vocational schools) and practice (companies) requires close coordination and integration. Vocational schools also in this case have to prove that they have a very high degree of responsibility and flexibility and the content as well as the presentation forms (block or day classes, block lengths, project work, etc.) should be designed in a way specific for a given profession and in cooperation with enterprises. Vocational schools should be supported with financing from public funds and borne by the economic self-government like chambers; in doing so, intensive contacts to enterprises will be made resulting in cost-reduction and concurrent increase of quality. If an ownership of vocational schools by economic self-administration is not feasible, enterprises or their representatives of the economic self-governance have at least to be involved in an instrumental way in the design and implementation of the tasks of vocational schools.

Vocational education must qualify for the future requirements of employment. The superiority of the dual system is based – among others – on the fact that large parts of the education take place in the enterprises. Thus, there is a permanent

orientation towards the actual and future economic challenges. The teachers in vocational schools must cooperate intensively with the industry and should do internships in enterprises on a regular basis as well as realise intensive further education.

An internship abroad already during the studies needs to be further supported. In addition to the general broadening of international experience, gathered intercultural competence is strengthened, contacts are made, and work methods and practices are learned abroad. Parts of the training acquired abroad, and the periods of learning must be fully recognised for the vocational training in their home country.

The vocational qualifications of all levels must be proven in national examinations. On this basis, the system of professional training and the examinations will be transferred in the entire EU area, just as a sovereign function of the chambers as responsible institution for vocational education. The acquired qualifications require mutual recognition in all EU states.

For this purpose, the development of the European Qualifications Framework (EQF) and a European system of credit points is conducted.¹⁰ These approaches are based on transparency and mutual trust. The focus is the qualification of skills of stronger learners and learning out-comes. In the implementation, it is particularly important to provide non-bureaucratic systems, which would document acquired skills and competencies by certificates of the international recognition and equality, encourage continuous learning, facilitate education and activities abroad and to motivate as well as facilitate the enterprises which are liable for their personnel decisions, provide information and transparency. The chambers in the Baltic Sea Region can - on the basis of a stable trust - perform the implementation of

¹⁰ Hanse Parliament, Baltic Education – Recognition of vocational qualifications in the Baltic Sea Region, Ham-burg

unbureaucratic systems and a full introduction of a pioneering role and in this way reach innovation projections.

Not only the formal learning and knowledge, but also informal learning and skills of stronger learners acquired during training are crucial for a high level of qualification. They should therefore be documented in certificates, as well as assessments of enterprises and self-assessments. The Euro-Pass constitutes an orientation basis, which encompasses personal skills, competencies and recognised qualifications; it can be completed on the basis of the demand and should receive intensive support.

The measures outlined above can also serve to enhance and increase attractiveness of the vocational education. In order to achieve these objectives complete outstanding permeability between vocational and higher education with recognition of competencies acquired earlier is needed. A vocational degree including professional activity of 2 - 3 years should entitle to higher university education in all the Baltic Sea Region states.

Furthermore, all measures of quality improvement and assurance taken in the professional training and comprehensive information and image campaigns need to be conducted. In this context, it is also necessary to highlight and clarify the immense nature of general education and vocational training, which demonstrates that particularly within vocational education a new elite of responsibility will be created and an elite promotion of achievement of all sorts of educational attainments and professional activities needs to be implemented.

Vocational training in SMEs is of paramount importance. "I know no institution in our society, in which it would be possible to implement such tremendous support for young people. This is only possible because in the crafts, more than anywhere else, the whole human being is required, the head as well as the hand, the humour as well as the imagination, the practice as well as the theory, the wisdom

as well as the common sense¹¹.” The overvaluation of the purely intellectual ideal of education must be contrasted with the general, eminent character of such training in crafts. Therefore, the uniform and harmonious development of all the mental and physical abilities takes a form of a self-image.

Young people and their parents must be aware that facing the large and increasing proportion of university graduate’s professionals and managers who have completed vocational training as the most limited factor and therefore in comparison to many academic degrees they have the best future prospects. However, vocational training may not lead to dead ends, but must be justified in an open and totally transparent system of continuous further education and university qualifications.

5.41 Strategy: Differentiation in Vocational Training

Vocational training must adequately take into account individual skills and capabilities and require extensive differentiation. Through the introduction of different levels, young people from different educational backgrounds, with different competences and learning progress can have an opportunity to obtain education which matches their specific skills:

Level 1: Specific vocational training for weaker learners for a period of 2 years, enabling focused and practical learning, will be completed with an independent recognised qualification.

Level 2: Middle level vocational training courses with mediation of theory and practice for a period of 3 years and a recognised qualification as a skilled worker or journeyman.

¹¹ Prof. Joist Grolle: The Spirit of the crafts. Workshop Report No. 4, Zukunftswerkstatt Hamburg

Level 3: Advanced vocational training courses for the study of skills with a duration of 3 - 3,5 years, which provide additional qualifications or training preferable in the initial training, and which will be completed with recognised degrees above the present trade or journeyman's examination.

With such a differentiated system of professional training, high permeability is needed. Each graduate at a lower level needs to have an unlimited possibility to reach a higher level, according to their progress in learning and actual achievements; taking into account already completed parts of the training. And vice versa, there should be an exchange of courses of a higher level to a lower-level courses taking into account the already covered training periods.

In an open and transparent system, gradual learning according to individual skills and potential is realized in every respect. Depending on the learning achievements and developments, each individual can achieve in principle the completion of education and training, although in different ways.

Also in vocational training, every young person deserves a second chance. This requires specific actions of preparation and promotion which need to be developed and implemented in close co-operation with enterprises, inter-company training workshops and vocational schools.

5.15 Strategy: Preparation and strengthening of Enterprises

The great dynamics of the economic process requires high adaptability of vocational training to the constantly changing framework conditions and requirements of the labour market. Dual systems with vocational training at an enterprise as well as vocational schools can secure constant exchange between the conditions and the requirements of economy and vocational training in principle in the best way possible.

In Germany practice-oriented training of specialists in the dual system led to the economic success and contribute to international reputation. Here vocational training is firmly rooted in the society and enjoys good reputation. It prepares young people for a broad spectrum of occupations. Vocational qualifications gained in this system are further appreciated at the labour market, and the system remains flexible enough to take care of elimination of unsatisfactory training programs and to answer to the establishment of new economic and occupational fields with the development of new training programs.

The dual system is especially well developed in Germany and connects learning at an enter-prise with learning at school in order to prepare students for successful transition to the full-time employment of the world of work. The result is that youth unemployment is very low when seen in an international comparison. The special pedagogy of the school part of the dual system is strongly oriented at the solution of problems and combines theory and practice in an innovative manner.

An especially important feature of the dual system is the fact that those social competences are conveyed to young people at a very early stage which are of vital importance for the professional success. To learn how to work in different teams, to resolve conflicts with superiors or colleagues, to behave with customers or take the initiative and to solve problems in several steps – these are the competences which can hardly be learned only in the classroom.

Vocational training in the dual system serves also the own qualification at an enterprise be-cause enterprises which provide training always remain technologically up to date.

Thanks to the period of training in the dual system it is possible for the employer to obtain in-formation about the quality and the productivity of his young specialists relatively cost-effectively what enables him to place the trainees at the end of their training in a targeted manner or to separate from them without having to take the risk of wrong choice. Average net costs of training of young people are opposed to search costs for a trained pupil that are not generated in this case.

Furthermore, during the learning period, the enterprise has the chance to compensate any deficiency in the knowledge of future specialists through targeted instructions and to convey education which is required for the benefit of the enterprise.

Through the recognition and comparability of dual qualifications there is a benefit for the trainees that they can utilize their education in other enterprises despite a high share of enterprise-specific knowledge.

One of the greatest strengths of the dual system is the high level of active engagement of employers and other social partners. However, due to a complex network of checks and balances the system is characterized at the federal, country, community and enterprise level. Thereby it is secured that more general educational policy and economic objectives of the vocational training systems are not suppressed by short-term needs on the part of employers.

In order to achieve flexibility and adaptability of dual vocational training and to even improve them in the future the following aspects are of critical importance.

Training regulations which regulate training at the enterprise for each occupation are developed on a national level by employers, employees and scientific experts together and then they are issued by the national government as a binding regulation. This development and coordination process can be very lengthy and difficult, required adaptations and modernizations prolong the process so that adaptability and flexibility are unduly restricted. Therefore, national education regulations should abandon detailing, describe an educational framework and thereby create place for regional peculiarities and strengthening of own responsibility and also enable quick adaptations.

Curricula for the school-based part of vocational training in the dual system should be also organized as framework curricula so that adaptations can be performed very quickly in detail and own responsibility of vocational schoolteachers is strengthened.

Close, constructive cooperation on an equal footing between training companies and vocational schools is of vital importance in order to secure direct exchange, high flexibility and quick adaptation.

This cooperation should be permanently secured by institutionalized forms. The school-based part of vocational training is in fact the concern of the state; however, these tasks could be transferred to the economic self-management in case of further financing out of public funds. The chambers as representatives of enterprises and partially also the employer (in Germany, e. g. chambers of crafts) are predestined to secure permanent cooperation between “their” participating companies and “their” vocational schools.

Recently a cooperation model has also proved to be successful in which state vocational schools are managed as an independent land office with financing out of public funds. The governing body of the land office involves representatives of the public administration, of the employer and the employee collectively.

The introduction of dual vocational training cannot be performed through simple transfer of existing systems, framework curricula and training regulations from other countries. It is absolutely necessary always to adapt such measures to the corresponding national and regional conditions. Vocational training must be oriented at the conditions in the respective country and must be based on the needs of the labour market there.

In dual systems of vocational training enterprises takeover education services to a great extent; up to 75% of the training period is completed at the enterprise. In this regard, the position of enterprises in the educational system must be definitely improved. Thereby small and medium-sized enterprises, which make up 99% of all the enterprises and provide 80% of education, must be represented by the chambers. The chambers in all the countries must be unrestrictedly competent bodies for vocational training which perform corresponding public authority tasks and put all their efforts in the provision of vocational training and further training. This includes, for example, also state-funded educational guidance of enterprises and

young people by the chambers as well as significant participation of the chambers in decision-making bodies of vocational schools.

Within the framework of the dual vocational training trainees are not interns who temporarily gain their first practical experiences at the enterprise. In this respect, the term “Work-based learning” can mislead, and interpretations suggest that the goal is school-based vocational training with interspersed practical training at the enterprise. In the dual system trainees are rather employees of the enterprise employed on a contractual basis which spend up to 75% of their training period at the enterprise, thereby they are involved in all the works and bring cash-value benefits to the enterprise to a greater extent through their cooperation. However, they may not be understood and treated as cheap labour in any case. Instead, enterprises must cherish trainees and fully support them.

Many enterprises spare their efforts and costs of training at the enterprise. Due to the fact that in countries with school-based vocational training a large share of young people after the completion of vocational training migrates abroad or commence studies at institutions of higher education, many enterprises fear that their own investments in training will be lost. Therefore, the demand is often raised to subsidize the costs of training at the enterprise from public funds in case of introduction of dual systems. For example, in Poland it should be pointed out that in case of financial assistance especially small and medium-sized enterprises participate definitely more actively in vocational training.

However, subsidies increase the dependency of enterprises from the state and can quickly lead to misdirection's. It is more appropriate to implement other financing systems and support of in-company training. For example, a pay-as-you-go system could be created which would attract all the enterprises to the financing of company-based training costs. According to the experience “only” 25% of all the enterprises on the average participate in vocational training. In labour agreements it could be stated that all enterprises must pay a certain part of their wage

bills for the financing of in-company training costs. Out of these revenues training companies receive financial alleviation without the cooperation of the state.

Important components for the support of in-company training are comprehensive information, educational guidance and preparation of enterprises. In the countries with mainly school-based vocational training enterprises hardly have experiences and qualified training personnel. Through obligatory training of trainer's enterprises can be optimally prepared for the implementation of own vocational training in a targeted manner. Corresponding preparatory courses must correspond to the needs of the enterprises and, for example, must be conducted in part-time form in the evenings and at weekends in order to minimize downtimes at the enterprise. These further trainings should contain at least 100 hours of instruction and should be completed with a recognized further training qualification "Instructor".

5.16 Strategy: Further Vocational Education

Vocational training does not require government regulation and should be primarily the responsibility of the industry and its local administration. Employers and employees need to recognize much greater extent of the high and growing importance of training and heavily invest in it.

Further training increases the supply of skilled labour and increasing productivity. In some Baltic Sea Region countries, there is a huge need for further training. While for example in Denmark 39% of women and 26% of men complete further trainings annually, the ratio is only 5.5% for women and 4.9% for men in Poland. SMEs and their employees must generally much strongly invest in further education. In this context, new models of burden sharing should be developed, in which for example the enterprises bear the cost of the training, and the employees can have their leisure time.

However, in general vocational training requires intensive professional development and in particular some improvements. This includes various approaches, for example:

- Systematic development of certified training modules that can be combined and lead to accredited training qualifications.
- Creation of training professions and professional development of horizontal career paths.
- Establishment of equality of educational pathways and degrees of vocational, general and university education.
- Full permeability and enhanced links between vocational education, further training and general education, and in particular university education. Vocational training needs to be taken into account in relevant disciplines of study.
- Promotion of international exchange, implementation of professional activities and training abroad, while making the greatest possible transparency of the acquired skills.
- International recognition or equivalence of further education qualifications in the context of non-bureaucratic systems.

According to the regulation in Germany, the chambers in all countries should maintain the authority of sovereign functions. The chambers should be able to issue official examination regulations with recognized degrees of further education programs (so called Chamber examination). Solely the chambers should be responsible for the examinations in further education programs.

The qualification for Master Craftsmen has proved to be very successful. This qualification secures the theoretical and practical knowledge and skills of junior employees and managers. The Qualification for Master Craftsmen is essential for small and medium sized enterprises; it must be intensified and coherently provided

in the entire Baltic Sea area. The Qualification for Master Craftsmen must entitle to start academic studies. The obtained qualification during the Master Craftsmen must be taken into account comprehensively for the study courses. It seems to be appropriate that achievements in the Qualification for Master Craftsmen will also be evaluated in Credit Points, which can then be taken into account for the study program. This creation of permeability will sustainably increase the attractiveness of vocational education in general and that of the Qualification for Master Craftsmen in particular. Any opening of the education systems with various educational carriers will satisfy individual affinities and abilities. Furthermore, it provides an opportunity to enterprises to meet the increased demand for skilled labour. It corresponds to the dire necessity that employees from outside the profession can work in craft-based industries and small- and medium sized enterprises.

5.17 Strategy: Dual Studies

There is currently already a significant lack of entrepreneurs and managerial staff in small and medium-sized companies. Demographic developments and increased competition between the different sectors of the economy will bring about a considerable increase in this shortage of entrepreneurs in future.

The demands on company management are high and are constantly rising. In the light of globalisation and the EU, international knowledge and experience are also increasingly required. Entrepreneurs and management staff working in SMEs need to have soundly based theoretical qualifications as well as good vocational training and practical experience.

Until now, SMEs have mainly drawn upon the system of initial and continuing vocational education and training to provide their up-and-coming entrepreneurs and managers. Such training routes are, however, strongly losing their appeal in many of the countries bordering the Baltic Sea. As a result of the dramatic medium-

term decline in the number of school-leavers going on at the same time, caused by the decrease in the birth rate, SMEs as a whole are able to attract fewer and fewer young people (supply problem) and are increasingly being forced to rely on young people with an inadequate level of training (quality problem).

The processes of internationalisation and market liberalisation have put the squeeze on continuing vocational education and training courses in individual countries. Young people are exhibiting an ever-greater preference for university level education. Since such courses are pre-dominantly theoretical in nature and largely neglect the practical requirements of SMEs in particular, the high numbers of students are not capable of producing a sufficient number of suitable entrepreneurs and up and coming managers. The furtherance of the entrepreneurial spirit and qualified training for entrepreneurs are increasingly becoming a critical bottleneck factor. The important task of promoting innovation in craft trade companies and in the SME sector needs, at the same time, to be accompanied by approaches aimed at the removal/alleviation of this bottleneck. These developments fundamentally apply to all countries in the Baltic region, albeit with varying degrees of intensity.

Bachelor courses should be much more practice-oriented and offered as a dual system. So, studying at the university would be linked to vocational training or practical work in enterprises. Vocational training is completed with a separate degree and in a certain scope would lead also to credit points which are required for passing the Bachelor examination. Dual study pro-grammes could be combined with the Qualification for Master Craftsmen (trial study). The achieved credit points must be taken into account completely for the Bachelor exam.

A dual bachelor's programme of study will be established, consisting of:

- Soundly based vocational education and training leading to journeyman/woman or skilled worker qualification.
- A recognised programme of study leading to a bachelor's degree.

The two components of the training are coordinated and are implemented in parallel. Participants need to have a certificate of qualification for university entrance and conclude separate contracts for the vocational education and training and for the programme of study.

The vocational education and training can comprise any technical specialist or commercial occupation. During the three to four-year period of training, the vocational element of the qualification will enjoy a special status, enabling the graduates to acquire in-depth practical knowledge and experience. The programme of study at a university, institute of higher education or University of Cooperative Education can comprise:

- the study of management and business administration,
- a technical course of study in various subjects,
- the study of design etc.

Within the framework of dual courses of studies, each student should be obliged to complete a part of their studies or vocational training abroad. Hereby, the focus should be laid on vocational training or employment in a foreign enterprise, since this at the same time allows making contacts between enterprises.

Colleges and universities need to cooperate in teaching and research much more closely with small and medium-sized enterprises. Dual degree programs can contribute significantly in the future to meet the high and growing demand of young entrepreneurs, managers and of professionals who have both practical and sound theoretical training. This training partnership between enterprises as well as colleges and universities is also an ideal starting point to knowledge sharing, technology transfer and implementation of practice-related research and development work.

5.18 Strategy: More Women and Elderly

In order to overcome the serious bottlenecks and to use the distinctive opportunities better the use of the domestic labour force potential in the Baltic Sea Region states is needed. For ex-ample, on the basis of the acquisition rates of women in Sweden, participation of women can be increased considerably in different Baltic Sea Region states. The creation of family-friendly workplaces is a vital prerequisite.

Great potential exists also in the labour force participation of older people. For example, the employment rate of older persons in Poland is 29.0% for women and 50.0% for men, whereas in Norway this is 66% for women and 73% for men.

Rigid age limits will differ from the ones included in flexible working arrangement. The limitation that people have to retire with a certain age will lose its strictness and flexible transitions will be made over the limit of seventy years of age. The retirement age will be in the long run pro-longed and will approach the limit of 70 years. Perhaps the greatest potential exists in the area of social and learning disabilities that were previously excluded, temporarily or permanently, and which can be integrated by means of targeted qualifications.

In the Nordic countries, the labour force participation of women and older people is significantly higher than in the countries south of the Baltic Sea. At the same time, small and medium enterprises (SMEs) in the Nordic countries achieve significantly higher productivity and innovation level. Empirical studies show that mixed management of men and women in a company is particularly successful. The largest reserves for support of innovation and productivity of a company are in human resources and organizational development.

The elimination of discrimination by sex or age in employment is, irrespective of economic needs, an important social concern. This means, inter alia,

- a higher labour force participation of women in general and performance of executive functions and self-employment in particular.

- a higher labour force participation of older persons.
- equal remuneration for equal work.

However increased labour force participation of women and elderly is seen as an urgent need in the light of changing conditions also for economic reasons, mainly for the following ones:

The number of people of working age shall decrease in all the Baltic countries. Further increasing shortage of entrepreneurs, managers and professionals increasingly inhibits economic development. Urgently needed is better utilization of the domestic labour force potential, especially by a generally higher labour force participation of women and older people.

A serious bottleneck always affects a growing entrepreneurial gap. Entrepreneurial skills should be promoted widely and result in a higher proportion of self-employment. A significant increase of women in management positions, as independent entrepreneurs or entrepreneurs increases entrepreneurial potential and contributes significantly to bridging the entrepreneurial gap.

For the most countries, comparatively good growth prospects are predicted. The best future projections are generally made for small and medium enterprises (SMEs). The power of SMEs in the labour market is much smaller than that of the large companies, so the SMEs are threatened to become losers. However, this existing growth potential remained largely untapped, and the overall economic development of a country / region would suffer in the long term. Increased promotion of participation of women and older people in SMEs is therefore of particular interest to these audiences as well as for the overall economic development.

Global competition requires high innovation and strong productivity. Companies with a higher proportion of women are generally more innovative and productive.

In addition to technical innovations, product innovations and growing share of special services, especially knowledge-intensive ones, are increasingly important.

The greatest innovation and productivity reserves lie in the human resources and organizational development, including education; corresponding development contributes to better equal opportunities and improved competitiveness. In all these areas, the innovative power of women and the experience and knowledge of older people is a very considerable endogenous potential that for the benefit of target groups that the entire society must utilize.

Creation of equal opportunities, in particular promotion of employment and self-employment of women and elderly, can boost innovation, productivity and sustainable growth in the Baltic Sea Region. This will also make indispensable contribution to the management of other current issues - such as high youth unemployment, emigration of young and skilled workers or looming lack of entrepreneurs and skilled workers.

5.19 Unbureaucratic integration of foreigners

Due to demographic trends, many EU countries require foreign skilled labour to a greater or lesser extent, even if the domestic labour force potential is fully utilised. As the situation is similar in many EU countries, the necessary immigration of foreign skilled labour will have to come from foreign cultures in particular. However, in some EU countries, particularly Germany, there are high bureaucratic hurdles to integration into the labour market.

Of course, language courses must be completed, and new certificates obtained. A bureaucratic procedure, a true certificate mania is wearing the foreigners down. They have to prove that they have acquired a professional qualification that corresponds to the qualifications of the host country.

Why do they need such certificates?

They may not have acquired a professional qualification in their home country that meets the high standards of vocational training in the host country, but they

have worked well and successfully as painters or bricklayers for 10, 15 or even more years in their home country and now they want to do the same in the host country. The important thing is not what certificate they have, but what they actually can do in a company, on the job. And they want to achieve something. They have come to work, but that is denied to them for a long time, often for several years.

Such disappointments, frustrations and attrition lead to rejection, anger and some-times even hatred and violence.

At the same time a misguided industry of education and integration companies is created, whose business it is to train the refugees and bring them up to the standards of the host country. And the longer this training is prolonged, the better for the business.

Why are economic principles overridden when using public funds? Why is actual success not rewarded? Why is it not the case that whoever qualifies the refugees the fastest and integrates them permanently receives the highest compensation?

The situation is similar with self-employment. For various professions, self-employment must be tied to recognized qualifications, like in Germany for the craft professions with a compulsory master craftsman's certificate. But for other professions - also for some handicrafts - a self-employed activity is not bound to any qualifications.

Why can refugees, who have sound professional experience and good entrepreneurial potential, not be trained as entrepreneurs in the host country in a comparably short period of time and quickly integrated into working life as successor entrepreneurs or founders of new businesses?

The language of the host country is best learned in everyday life and in the working world. Professional qualifications are not so much gained at school but on the job. Integration takes place less in theory classes, but in the working world with accompanying coaching.

During recognition procedures, trainings, new trainings or vocational master trainings, which can last several years, migrants are not available to the labour market in the host country. De-spite their quite significant, often informally acquired skills and experience, they must start from scratch at an advanced age and are not allowed to work for a long time. The greatly delayed integration frustrates the immigrants to a high degree, who are not allowed to work, although they would like nothing better.

At the same time, the economy must wait a long time for the urgently needed skilled workers.

The fact that the immigrants do not work for a long time increases rejection among the domestic population: “They do not work at all, they only plunder our social security funds and live at our expense.” These are common misconceptions about refugees.

The culture of welcome turns increasingly into a culture of rejection.

The following successfully tried and tested procedure is proposed for the rapid integration of foreigners.

- Assessment

Everyone who immigrates should be allowed and required to work immediately. Personal skills are assessed within two days and tailored education and integration programmes are developed. Suitable tools for an assessment are available.

- Language training

Short language training sessions are organised, which are geared to the requirements of the world of work. Certain certificates played a subordinate role. A language ability is to achieve that could be followed very quickly in the language of the respective host country in order to meet the minimum requirements of the working world. If necessary, language training can be continued in the workplace.

- Internship in companies

An internship of at least one month is completed in a company. Companies and fields of activity are selected according to the results of the assessment. During the internship, it is determined which qualification deficits exist and which additional training needs to be provided.

- Vocational qualification

In accordance with the results of the assessment and the internship in the company, specialist follow-up training is provided, which takes place as far as possible in the workplace.

- Integration and coaching process

They can and should be employed by a company within six months. The entire process from the assessment to the induction in a company is accompanied by a coaching process with all individual support for the foreigner and also for the company.

It is also essential to utilise the great potential and high motivation of foreigners to take up self-employment. Start-ups by foreigners are a job engine and must be promoted to the best of our ability through customised, unbureaucratic procedures.

The current debates about too many foreigners, fear of foreign infiltration, integration problems, closing borders, etc. are very damaging. The

Companies must quickly recruit skilled labour from immigrants.

Foreigners are not second-class citizens. Disturbed feelings of self-worth are the main cause of conflicts and problems. The value and benefits of foreigners for society and the associated cost savings must be intensively publicised and discussed.

5.10 Strategy: Development of Innovation and Education Center of Excellence

Contingent on the demographic development the number of younger persons decreases more and more. At the same time, vocational training has significantly lost its attraction, so that the share of young people who complete vocational trainings has dropped to a terrifying low level, while the share of young people with high school diplomas as well as students constantly increases. The consequences are strong decline of the number of persons passing vocational training so that staff, spatial and technical capacities in vocational training will be available to an even greater and increasing extent in the future.

This displacement process experiences distinct intensification if dual systems are introduced in countries with school-based vocational training. While during school-based vocational training 80 – 100% of the training time is spent at school, in case of dual training this share decreases to 25 – 30%.

As part of these development vocational schools are closed more often, teaching staff is dismissed and thereby urgently required training capacities especially in rural areas are destroyed. In Poland and in the Baltic Sea countries there is an extremely great need for further education; here there is a very strong lack of staff, spatial and technical capacities. In the interest of vocational schools and their teaching staff, but also in the interest of economic promotion, the preservation of existing and creation of new jobs, for the strengthening of innovations and productivity as well as for the reduction of far too high unemployment, the existing vocational schools should be further developed and transformed to comprehensive innovation and education centers of excellence and competence.

Small and medium-sized enterprises suffer from bottlenecks by operational management and information processing. They need tailor-made services – without delays and from a single source. Networks have exceptional importance for them. They cannot possess internal administrative functions like major enterprises

which take over various tasks of company management. In medium-sized businesses such administrative functions and promotion-related tasks must be performed externally. Centers of competence are central service providers which provide the required help and support in a company-specific way, from one source through cooperation of vocational schools, chambers and high schools/universities and thereby render services in kind.

Central bottlenecks for the further development of medium-sized business in all the Baltic Sea countries concern the strongly increasing lack of young entrepreneurs, management staff and specialists, the great need for product and process innovations as well as the absent promotion of innovations which is oriented at specific requirements of small and medium-sized enterprises. In order to remove these barriers to growth in the countries with previously school-based vocational training in connection with introduction of dual vocational training the existing vocational schools should be transformed to the centers of competence.

Education represents the greatest bottleneck and the strongest growth area of the future. The innovative strength of SMEs is most of all restricted by the availability and qualification of entrepreneurs, management staff and specialists. Due to the lack of qualifications and absent entrepreneurs and employees the innovations in SMEs are much lower even today than they could and should have been. At the same time qualification requirements increase; beside specialized knowledge personal and social skills gain equal importance. The improvement of qualifications and the elimination of lack of specialists have the highest priority and are the central key for the sustainable strengthening of innovations, competitive ability and growth of SMEs.

These centers of competence which concentrate in the corresponding region on certain occupations and technological fields should be operated in close cooperation with chambers of commerce as well as high schools and universities in order to collectively perform educational and consulting tasks, for example:

- Improvement of quality and attractiveness of vocational training and introduction of dual training systems.
- Issuance of the regular vocational school curriculum within the framework of dual trainings.
- Comprehensive qualification, support and counselling tasks for young people with learning difficulties and socially deprived young people which have been previously segregated and integrated in regular vocational training using these ways.
- Integration of all young people and creation of specific training courses for school graduates with practical talents.
- Development and implementation of vocational courses for young people with good learning results which have already received additional qualifications and preferred further training in the center of competence in the amount of 500 – 700 hours during their vocational training.
- Together with high schools and universities and also enterprises implementation of du-al courses in which studies are combined with respective vocational training at the same time in order to satisfy the high demand for young innovative entrepreneurs and management staff for SMEs. Thereby centers of competence take over an ambitious school-based part of vocational training.
- Conduct of business start-up courses and accompanying counselling of entrepreneurs till the successful start-up or takeover of a business.
- Training of trainers at the enterprise and taking of trainer aptitude examination in order to qualify enterprises for vocational training within the framework of dual systems.

- Demand-oriented development and implementation of further training programs related to all the relevant issues of the quickly growing demand for further training of entrepreneurs, management staff and specialists.
- Targeted further trainings for women and men during the family phase as well as qualification and counselling tasks during re-entering the working life.
- Implementation of further training and counselling programs for older persons.
- Together with employment agencies conduct of retraining, qualification and integration measures for the unemployed.
- Securing information and experience exchange as well as knowledge and technology transfer in written and electronic form also especially through personal exchange in the form of meetings, information and training events, group coaching etc. which is so important for SMEs.

The development of vocational schools into centers of competence for medium-sized business requires public investments which are opposed at the same time by significant savings by vocational training through the implementation of dual educational systems. Besides it leads to the achievement of efficient educational innovative and economic support which pays off many-fold through higher growth with increasing tax receipts on the one hand and savings of public funds at the labour market and social policy on the other hand.

The implementation of innovation and education centers of excellence and competence has no alternative for the creation of a prosperous future. And it is more appropriate and much better from the economic point of view to use available facilities in form of already existing vocational schools for this purpose than creating new facilities in the green countryside which is much more expensive.

In individual EU countries (e.g. in Germany), vocational competence centres or education and technology centres have been developed at regional level in recent

decades, which are active in vocational education and training. These centres have already proved their worth, but have three decisive deficits:

- They are not or not sufficiently integrated into local and regional economic and development policy.
- They do not or not sufficiently cooperate with colleges and universities and do not run any vocational study programs.
- They are not or not sufficiently involved in promoting innovation and do not carry out R&D projects for companies.

Centres of vocational excellence must also fulfil these three conditions and tasks.

Centres of vocational excellence (COVE) must be geared towards regional conditions and specific development potential and be closely integrated into local and regional economic and development policy. Regional policy must emphatically promote the COVEs and the COVEs must provide targeted support for regional development.

Colleges/universities must be integrated into the COVEs. The three-tier orientation of the vocational centres of excellence with the involvement of colleges/universities is of crucial importance.

Finally, centres of vocational excellence must comprehensively promote innovation and carry out R&D projects together with companies. The implementation can take place as an independent task and/or optimally in conjunction with further training measures or dual study programs. Teachers must also act as advisors, innovation promoters and researchers, and the modern, well-equipped training workshops must also serve as development laboratories and test workshops for SMEs. A mutual development and fertilization process between COVE and companies must be achieved.

5.2 Analysis of EU funding opportunities¹²

EU long-term Budget and Next Generation EU

The EU's long-term budget for 2021-2027 and the Next Generation EU initiative are two intertwined financial frameworks aimed at responding to the challenges posed by the COVID-19 pandemic and addressing broader economic and societal needs within the European Union.

The EU long-term budget, also known as the Multiannual Financial Framework (MFF), outlines the European Union's budgetary framework for a specific period, typically covering seven years. It sets the limits for EU spending across various policy areas and programs. The budget allocates funds to different policy priorities and programs, reflecting the EU's strategic objectives and priorities for the specified period.

The MFF provides a framework for how much the EU can spend in different policy areas, such as agriculture, regional development, research and innovation, migration, security, education, and more. It's a crucial tool for planning and implementing EU policies and programs effectively.

The long-term budget is essential for implementing various EU policies and initiatives, including programs supporting research and innovation, agriculture, infrastructure development, cohesion funds for less-developed regions, education and training, foreign aid, and more. It serves as the financial backbone for the EU's activities, determining the financial resources available to address common challenges and pursue common goals across member states.

Next Generation EU is an additional and temporary funding instrument established in response to the economic fallout caused by the COVID-19 pandemic. This instrument is aimed at supporting EU member states in their recovery efforts.

¹² Prepared by National Centre for Education, Latvia

Next Generation EU includes a mix of grants and loans designed to provide financial support to member states, focusing on investments in green and digital transitions, resilience-building, and structural reforms.

The key components of Next Generation EU include the Recovery and Resilience Facility (RRF), which provides grants and loans to support member states' recovery plans, and other funding mechanisms for various sectors and initiatives.

The funds under Next Generation EU are meant to be disbursed over several years and are targeted at addressing immediate recovery needs while fostering long-term resilience and sustainability within the EU.

Together with the Next Generation EU (NGEU) recovery instrument, the EU's long-term budget 2021-2027 supports recovery from the COVID-19 pandemic and the EU's long-term priorities across different policy areas.

The comprehensive financial package combines the following:

- €1 216 billion under the multiannual financial framework.
- €807 billion under the extraordinary recovery instrument, Next Generation EU.

During the 2021-2027 the EU funding is being geared towards new and reinforced priorities across the EU's policy areas, including the green and digital transitions. Cohesion policy and the common agricultural policy continue to receive significant funding and have undergone modernisation to ensure that they contribute optimally to the EU's economic recovery and its green and digital objectives.

On 17 December 2020, the Council adopted the regulation laying down the EU's long-term budget for 2021-2027, after receiving the consent of the European Parliament.

The MFF covers the following main spending areas (in current prices):

- single market, innovation and digital: €151.3 billion

- cohesion, resilience and values: €429.4 billion
- natural resources and the environment: €401 billion
- migration and border management: €26.2 billion
- security and defence: €14.9 billion
- neighbourhood and the world: €110.6 billion
- European public administration: €82.5 billion

The plan for European recovery provides massive public and private investment at European level to create jobs and repair the immediate damage caused by the COVID-19 pandemic, whilst supporting the EU's green and digital priorities. To provide the EU with the means to address these challenges, the Commission has been authorised to borrow on the capital markets on behalf of the EU. The Next Generation EU recovery instrument enables the transfer of these funds to EU programmes as follows:

Recovery and Resilience Facility: €723.8 billion (loans: €385.8 billion, grants: €338 billion)

- ReactEU: €50.6 billion
- Horizon Europe: €5.4 billion
- InvestEU: €6.1 billion
- Rural development: €8.1 billion
- Just Transition Fund (JTF): €10.9 billion
- RescEU: €2 billion

Over 50% of the long-term budget and NextGenerationEU will be allocated towards novel focal points. These will encompass:

Advancements in research and innovation through Horizon Europe.

Facilitation of equitable climate and digital shifts via the Just Transition Fund and the digital Europe program.

Readiness, recuperation, and fortitude supported by the Recovery and Resilience Facility, the EU's Civil Protection Mechanism (rescEU), and the health initiative, EU4Health.

30% of both the long-term budget and NextGenerationEU will be dedicated to combatting climate change, marking the highest allocation ever within the largest EU budget to date. These resources form a significant investment strategy to promote the greening of the economy. The plan will merge EU and national public funds, along with public and private investments, aiming to bolster the EU's journey towards achieving climate neutrality by 2050.

20% of the finances from the Recovery and Resilience Facility will be directed towards fuelling the EU's digital evolution. These allocations aim to bolster investments in supercomputing, artificial intelligence, cybersecurity, enhanced digital competencies, and the broader integration of digital technologies throughout the economy and society.

In 2026 and 2027, 10 % of the annual spending under the long-term budget will contribute to halting and reversing the decline of biodiversity.

With regard to Vocational Education and Training there are various EU funding programs and initiatives to support Centres of Vocational Excellence and vocational education and training (VET) in general during the funding period of 2021-2027. Some of the key programs and funding mechanisms include:

- Erasmus+ Programme: This is one of the main EU funding programs that supports education, training, youth, and sport. Within Erasmus+, there are opportunities for VET institutions, including COVEs, to apply for funding for mobility projects, strategic partnerships, and cooperation projects.
- European Social Fund+ (ESF+): ESF+ is a financial instrument aimed at supporting employment, social inclusion, education, and skills development. It can

fund projects focused on improving vocational education and training, including the operation and development of COVEs.

- **Horizon Europe:** While primarily focused on research and innovation, Horizon Europe includes opportunities for vocational training institutions to participate in projects that advance innovation in VET and promote excellence in skills development.
- **European Regional Development Fund (ERDF) and Cohesion Fund:** These funds aim to reduce regional disparities in terms of economic development. They might support infra-structure development, including the establishment or enhancement of vocational training facilities like COVEs.
- **European Agricultural Fund for Rural Development (EAFRD):** This fund targets rural areas and can support projects related to vocational education and training in agricultural and rural contexts.
- **European Solidarity Corps:** This initiative offers volunteering and occupational opportunities for young people. It might indirectly support vocational training initiatives and COVEs through projects focusing on skills development and training.

It's important to note that the availability of funding, specific criteria for eligibility, and application processes can vary between programs and also depend on the country or region within the EU. Institutions interested in accessing EU funding for COVEs should keep an eye on calls for proposals, consult relevant national agencies or the European Commission's official website for detailed and up-to-date information on available funding opportunities and eligibility criteria.

Erasmus+ Program

The Erasmus+ Program offers substantial support to Centers of Vocational Excellence through various actions. COVEs seeking support from Erasmus+ should keep an eye on the program's calls for proposals, identify relevant actions aligned with their goals, and develop strong project proposals highlighting their expertise, innovation

potential, and commitment to enhancing vocational education and training. Collaboration, innovation, and a clear alignment with Erasmus+ objectives will increase the likelihood of securing funding and support for COVE-related initiatives.

Support offered by Erasmus+ Program:

- **Mobility Actions:** Erasmus+ facilitates the mobility of learners and staff. COVEs can participate in mobility projects, allowing students, apprentices, teachers, trainers, and other staff to gain international experience, exchange best practices, and acquire new skills through study periods, internships, or job shadowing in other countries.
- **Strategic Partnerships:** COVEs can engage in strategic partnerships between organizations in the field of vocational education and training. These partnerships can focus on innovation, exchange of expertise, curriculum development, and the implementation of joint initiatives to improve the quality and relevance of vocational training.
- **Cooperation for Innovation and Exchange of Good Practices:** Erasmus+ supports projects that promote innovation, share good practices, and develop new approaches in vocational education and training. COVEs can participate in these projects to enhance their teaching methodologies, curricula, and training programs.
- **Sector Skills Alliances:** These alliances aim to address skills gaps and mismatches by promoting cooperation between education providers, businesses, social partners, and other relevant stakeholders. COVEs can engage in Sector Skills Alliances to develop innovative training programs aligned with industry needs.
- **Capacity Building in the Field of Higher Education and VET:** Erasmus+ supports capacity-building projects, fostering institutional development and cooperation between organizations in different countries. COVEs can benefit

from these projects to enhance their capacity, develop new training methodologies, and strengthen their role as centers of excellence.

- **Policy Experimentations and Forward-Looking Cooperation Projects:** Erasmus+ also funds strategic partnerships for policy experimentation and forward-looking cooperation. COVEs can engage in these projects to contribute to the development of innovative policies, practices, and tools in vocational education.

The European Social Fund+

(ESF+) plays a crucial role in supporting employment, social inclusion, and education across the European Union. ESF+ can support Centers of Vocational Excellence in several ways. COVEs interested in ESF+ support should explore funding opportunities within their respective countries or regions. They should collaborate with relevant authorities, apply for specific calls for proposals, and demonstrate how their initiatives align with ESF+ priorities in promoting education, skills development, and social inclusion within vocational training. Strong project proposals that address local/regional needs and emphasize collaboration and innovation will enhance the chances of securing ESF+ funding for COVE-related activities:

- **Skills Development and Training:** ESF+ funds initiatives aimed at enhancing skills development and training opportunities. COVEs can receive support for designing and implementing vocational education and training programs that align with the needs of the labour market and local/regional industries.
- **Promotion of Inclusive Education and Training:** ESF+ emphasizes inclusive education and training, ensuring that diverse groups have access to quality vocational education. COVEs can develop programs tailored to specific needs, including those of disadvantaged groups, fostering inclusivity within vocational training.
- **Modernization and Innovation:** ESF+ supports the modernization and innovation of education and training systems. COVEs can receive funding to invest

in modern facilities, equipment, and teaching methodologies that promote innovative approaches to vocational education.

- **Partnerships and Cooperation:** ESF+ encourages cooperation between educational institutions, businesses, social partners, and other relevant stakeholders. COVEs can collaborate with industry partners to develop training programs that meet current and future industry demands, promoting a strong link between education and the labour market.
- **Professional Development of Teachers and Trainers:** ESF+ can support the professional development of teachers, trainers, and staff working in COVEs. Funding may be available for training courses, workshops, and activities that enhance their skills and teaching methodologies.
- **Addressing Specific Regional Needs:** ESF+ recognizes regional disparities and supports tailored interventions. COVEs in different regions can access funding to address specific regional challenges or capitalize on regional strengths in vocational education and training.

Horizon Europe

For COVEs seeking support from Horizon Europe, it's essential to monitor the program's calls for proposals and identify areas where their expertise and objectives align with the priorities outlined in Horizon Europe. Collaboration, innovation, and a clear alignment with the program's objectives will enhance the chances of securing funding and support for COVE-related initiatives.

The European Union's research and innovation program, can support Centers of Vocational Excellence in several ways:

- **Research and Innovation Projects:** COVEs focusing on vocational education and training can participate in Horizon Europe-funded projects. These projects might explore innovative teaching methodologies, skills development, and ways to bridge the gap between education and industry needs.

- **Partnerships and Collaboration:** Horizon Europe encourages collaboration between different entities, including research institutions, businesses, and educational organizations. COVEs can partner with other institutions within Horizon Europe projects, fostering knowledge exchange and best practice sharing.
- **Innovation in Vocational Education:** The program supports initiatives that aim to innovate in vocational education and training. COVEs can propose projects that enhance the quality, relevance, and effectiveness of vocational education by incorporating cutting-edge technologies or methodologies.
- **Policy Development:** Horizon Europe projects often contribute to shaping policies and strategies. COVEs involved in these projects can influence policies related to vocational education, helping to create an environment conducive to excellence in skills development.
- **Funding Opportunities:** While not directly focused on vocational training, some specific calls within Horizon Europe might indirectly support COVEs' activities. These could involve projects related to digitalization, sustainable development, or other areas where vocational education intersects with broader societal challenges.

The European Regional Development Fund

(ERDF) and Cohesion Fund are instrumental in reducing economic disparities and promoting balanced development across EU regions. COVEs interested in accessing ERDF and Cohesion Fund support should explore funding opportunities available within their regions or countries. They should engage with relevant regional authorities, participate in calls for proposals, and develop strong project proposals that align with the funds' objectives in promoting regional development through vocational education and training. Collaboration, innovation, and a clear focus on regional needs will enhance the chances of securing funding for COVE-related initiatives.

These funds can support Centers of Vocational Excellence in various ways:

- **Infrastructure Development:** ERDF and Cohesion Fund can finance the construction, renovation, and modernization of vocational education and training facilities, including COVEs. This funding can help upgrade facilities, invest in modern equipment, and create conducive learning environments.
- **Technology and Innovation:** Funding from ERDF and Cohesion Fund can support the integration of modern technology and innovative learning tools within COVEs. This includes investing in state-of-the-art equipment, software, and infrastructure to enhance vocational training methods.
- **Promotion of Entrepreneurship and Industry Collaboration:** COVEs can receive support to collaborate with local industries and businesses through ERDF and Cohesion Fund initiatives. This can involve creating partnerships that facilitate work-based learning, internships, and apprenticeships, aligning vocational training with industry needs.
- **Skills Development for Employment:** ERDF and Cohesion Fund programs often focus on improving skills for employment. COVEs can benefit from funding to develop and implement training programs that address specific skills gaps and contribute to regional work-force development.
- **Regional Specialization and Competitiveness:** These funds can support COVEs in regions to specialize in particular vocational fields based on regional strengths or industry demands. This can enhance the competitiveness of both the region and the COVE itself.
- **Innovation Strategies and Capacity Building:** ERDF and Cohesion Fund initiatives often prioritize innovation and capacity building. COVEs can access funding to develop and implement innovative strategies, curricula, and methodologies that enhance vocational training and education.

The European Agricultural Fund for Rural Development

COVEs seeking support from EAFRD should collaborate with rural development authorities, engage in calls for proposals related to skills development, rural innovation, or economic diversification in rural areas, and develop project proposals that align with EAFRD objectives. Demonstrating the relevance of vocational training to rural development and fostering collaboration with local stakeholders will strengthen the potential for securing EAFRD support for COVE-related initiatives in rural settings.

(EAFRD) aims to support rural development, including initiatives related to agriculture, the environment, and rural communities. While not directly focused on vocational education, the EAFRD can indirectly support Centers of Vocational Excellence in rural areas through various means:

- **Rural Skills Development:** EAFRD can contribute to projects that focus on developing skills and training in rural areas. COVEs located in rural settings can propose initiatives that enhance vocational training specifically related to agricultural practices, agribusiness, or rural industries.
- **Diversification of Rural Economies:** EAFRD supports initiatives that aim to diversify rural economies. COVEs can propose projects that align with this objective, offering vocational training programs that enable individuals to acquire skills needed in emerging rural industries beyond traditional agriculture.
- **Support for Innovation in Rural Areas:** EAFRD funding can be directed toward innovative projects in rural development. COVEs can leverage this support to develop and implement innovative vocational training methods, incorporating technology and modern practices relevant to rural sectors.
- **Promotion of Entrepreneurship and Rural Employment:** COVEs can collaborate with local stakeholders and businesses in rural areas to create vocational training programs that promote entrepreneurship, foster rural employment, and address skill gaps within specific rural industries.
- **Environmental and Agricultural Sustainability:** EAFRD emphasizes sustainable rural development. COVEs can propose projects that integrate

environmental sustainability and best practices in agriculture and related sectors within their vocational training programs.

- **Infrastructure and Equipment:** In some cases, EAFRD funding may be allocated to improve infrastructure and equipment in rural areas. COVEs could benefit from this by upgrading their facilities and acquiring necessary equipment for delivering high-quality vocational training.

The European Solidarity Corps

The European Solidarity Corps (ESC) offers young people across Europe opportunities for volunteering, internships, and job placements. While its primary focus is on fostering solidarity and offering young people valuable experiences, it can also indirectly support Centers of Vocational Excellence. COVEs interested in benefiting from ESC support can explore opportunities to engage with ESC projects, offer placements, collaborate on educational initiatives, or host ESC volunteers. Establishing connections with ESC coordinating organizations and understanding the available opportunities within the program can facilitate the integration of ESC support into COVE activities:

- **Skill Development through Volunteering:** ESC allows young people to volunteer in various projects, including those related to education and skills development. COVEs can engage ESC volunteers to assist in training activities, mentorship programs, or educational initiatives, thereby contributing to skill development.
- **Internship Placements:** COVEs can offer internship placements to young people through ESC. This allows students or recent graduates to gain practical experience in vocational education and training settings, fostering their professional development while supporting COVE initiatives.
- **Participation in Educational Projects:** ESC projects often include educational components. COVEs can collaborate with ESC-funded projects related to education, training, or youth development, providing expertise and contributing to the educational content or methodologies.

- **Cross-Cultural Learning:** COVEs can benefit from the diverse perspectives and experiences brought by ESC volunteers. This diversity can enrich the learning environment within COVEs, fostering cross-cultural understanding and promoting a more inclusive learning atmosphere.
- **Networking and Partnerships:** ESC offers opportunities for COVEs to network with other organizations involved in youth development, education, and skills training. This can lead to potential partnerships, knowledge exchange, and collaborative projects that enhance COVE activities.
- **Promoting Social Responsibility:** By engaging with ESC, COVEs can demonstrate their commitment to social responsibility and youth development. This involvement can enhance the reputation of COVEs and attract students or stakeholders who value organizations involved in social initiatives.

First center level "Vocational training"

1. Overview Concept, Tools and Curricula

As part of the 3LOE project, dual vocational training was to be implemented in all seven partner countries. The basis for this was the German dual system, which was adapted to the respective national conditions and implemented. The following concepts, tools and curricula were developed and implemented for the first Center Level (EQF Level 3 and 4).

1. The German dual vocational training system was prepared and transferred, including strategies for vocational education and training as well as recommendations for the transfer and implementation of dual vocational training in countries with school-based vocational education.

2. Training of trainers in SMEs, to provide qualified trainers in the training companies within the framework of the dual system.

3. Tool for vocational and qualification counselling.

4. Training for consultants & teachers to use the tool for vocational and qualification counselling.

5. In accordance with the focus of the 3LOE project in the Green Economy and the needs of the project partners, framework curricula for the school part and training regulations for the company part of vocational training as well as examination regulations for the following professions were prepared and transferred:

- Electronics technician for industrial engineering
- Vehicle mechatronics engineer
- Plumber
- Sewage engineering technician
- Environmental technology

6. Based on the German curricula, the international working groups developed and implemented country-specific curricula for dual vocational training for various occupations.

- In Poland dual vocational training “Electrician” and „Fitter of fixtures and fittings in building industry”

- In Lithuania dual vocational training “Cook” and "Sustainable restaurant worker"

- In Latvia dual vocational training “Motor vehicle mechanic/Car mechanic”

- In Spain dual vocational training “Electro mechanic”

7. Trainings for teachers to conduct dual vocational training.

8. Political concept for the training and integration of young people with learning difficulties.

9. Dual vocational training "Specialist for Building Insulation”, for the education and integration of young people with learning difficulties.

10. Six trainings for the provision of additional qualifications for young people with a strong learning ability during or directly after initial vocational training.

- A Technologies water supply

- B Technologies water saving

- C Greywater and rainwater utilization technologies

- D Technologies decentralized wastewater treatment

- E Fundamentals of the circular economy

- F Systemic solution-oriented consulting

A recognised further education qualification (EQF Level 5) is acquired, the attractiveness of vocational education is increased and young people with a strong learning ability are attracted to vocational education.

11. Five-year technician training „Ecologic Solutions in Logistics” with a recognised technician qualification at EQF level 5.

All results, which can be used free of charge without restriction, are published on the project website www.3-loe.eu.

2. Recommendations for the transfer and implementation of dual VET

2.1 Introduction

Vocational education and training is no longer as attractive as it used to be. Particularly in countries where vocational education is predominantly school based, many young people perceive it as a dead end, and participation rates have reached alarmingly low levels. Consequently, most students only undertake short in-company internships – if at all – so that the amount of work-based learning is usually very limited. This results in high unemployment rates: in fact, insufficient vocational qualifications lead to permanent unemployment, with rates in some countries as high as 20% for people with only primary and low secondary education.

At the same time, companies complain about the inadequate qualifications of students. School-based professional training cannot fully take the conditions of the labour market into account and fails to adequately address the qualification requirements of companies. Students learn too little about everyday working life and school lessons are ill-equipped to impart the necessary personal and social skills, which are becoming increasingly important.

As a result of demographic change, the number of school leavers is declining significantly in all Baltic Sea countries except Sweden. By 2030, the number of 15- to 44-year-olds in the work force will decrease by up to 25%. Most countries are already experiencing a shortage of skilled workers, with increasingly severe effects on their future economic development. At the same time, they are confronted with alarmingly

high youth unemployment, not least due to a lack of or insufficient vocational qualifications.

In the competition for new talent, SMEs are in danger of losing out. Due to a lack of qualified staff, SMEs are already much less innovative today than they could and should be. A shortage of young entrepreneurs, managers and skilled workers is the main factor limiting the growth of SMEs. Raising the level of qualifications while at the same time eliminating the shortage of skilled workers is of utmost importance for the promotion of SME innovation, competitiveness and growth.

Against this background, it is crucial to reconcile:

- a) the integration of young people and the reduction of youth unemployment with
- b) the provision of qualified staff for SMEs and a significant reduction in the shortage of skilled workers.

In the German system of dual vocational training, which leads to comparably low unemployment, companies share responsibility for growing their pipeline of skilled workers. As such, this system is much better at combining vocational training with the companies' own needs and those of the labour market and can therefore make a major contribution to long-term success. However, the German system should not be misconstrued as a "one-size-fits-all" model that simply needs to be transferred. Any attempt at transferring and implementing it requires thorough preparation and needs to be adapted to the respective regional/national conditions. However, the basic principles of the dual model should be retained as much as possible – any "work-based learning" whose only vocational component consists of in-company internships (whether long or short) is by no means sufficient.

Within the framework of the project 3LOE, work-based learning is to be realized in initial vocational education and training, continuing vocational education and training and higher education (EQF Level 3 - 7) through the implementation of dual education systems. As a basis for this comprehensive work, recommendations for transfer and implementation are summarized.

2.2 How to inform companies and qualify them for dual systems

In order to implement dual systems, it is particularly important to involve companies in the vocational education process. As a first step, it is important to provide them with comprehensive and in-depth information about the nature of dual systems.

Companies need to become aware of the responsibilities and the tremendous benefits that the dual system will bring for them. In school-based vocational education, the state bears all training costs; in dual systems, by contrast, companies cover most of the costs themselves. Companies thus tend to focus on this additional financial burden without being unaware of the potential benefits, which only materialize with a delay of several years. For this reason, many companies only want to participate in dual training schemes if they receive remuneration from the state for the training they provide. However, companies are inherently responsible for educating the next generation of skilled workers and for investing in their training, and governments should not absolve them of this responsibility. Therefore, governments should, under no circumstances, reimburse the training expenses of companies. If such public funding is necessary to increase the willingness of companies to participate and to create sufficient in-company training capacities, the business sector should be put in charge of designing and administering a pay-as-you-go system. At most, governments should reward companies for the training services they provide by giving them preferential treatment when awarding public contracts.

One particular obstacle in countries with predominantly school-based vocational training is that companies have little experience and qualified training personnel at their disposal. To eliminate this bottleneck, "training of in-company trainers" should be conducted in as many companies as possible before dual systems are introduced – and on a continuous basis thereafter – in order to prepare them optimally for their implementation. As part of the present project, two such training courses – which companies can also use independently of vocational training activities to improve their

communication, cooperation and workflows – have been developed, tested, evaluated and implemented in various countries.

Self-regulatory bodies, professional associations and vocational schools play a key role in preparing and recruiting companies for dual vocational training and its implementation.

2.3 How to involve self-regulatory bodies and qualify them for dual systems

Small and medium-sized enterprises are hampered by low management and information processing capacities. They thus need tailor-made services, without undue delays and from a single source. This makes networks especially important for them. Unlike large corporations, they cannot afford to have in-house staff functions that handle a wide range of corporate management tasks. In the SME sector, such staff functions and support tasks therefore have to be outsourced. Self-regulatory bodies and professional associations thus act as central service providers, offering SMEs tailor-made, reliable assistance and funding from a single source, which translates into services of clear monetary value.

Self-regulatory bodies and professional associations have to provide companies with comprehensive information, encourage them to participate in dual vocational training and provide them with advice and guidance during the implementation process. In addition, they need to represent companies' interests vis-à-vis the relevant political, administrative and educational bodies and participate in the development and continuous revision of curricula and training regulations.

After all, their tasks also include informing and advising young people about vocational training opportunities, maintaining placement exchanges, placing young people in apprenticeships and acting as mediators in cases of conflict between companies and trainees. Consequently, the self-regulatory bodies and professional associations need to be prepared to perform these diverse tasks, and they must be involved at an early stage before dual vocational training is introduced. To this end, specific Train the Trainer

pro-grams have been developed, tested, evaluated and implemented as part of the 3LOE project, which are available free of charge.

As self-regulatory bodies, Germany's chambers of commerce and industry are of special importance: they are responsible for vocational education and perform statutory functions in this field. When implementing dual vocational training, the self-regulatory bodies should, wherever possible, be structured as public-law corporations that, in addition to organizing and shaping vocational education opportunities, also perform statutory functions on behalf of the government. As a minimum requirement, they should be in charge of conducting the intermediate and final examinations in vocational education.

2.4 How to prepare and qualify vocational schools for dual systems

Due to demographic changes, the number of young people is declining steadily. At the same time, vocational education has lost much of its appeal, with the result that the proportion of young people in vocational training has dropped to alarmingly low levels, while the share of young people with matriculation exams and university enrolment rates are constantly rising. As a result, the number of people in vocational training has dropped sharply, with the effect that more and more human resources, facilities and technical capabilities are being freed up in vocational education. Vocational school-teachers' fear of losing their jobs is a major inhibiting factor when it comes to the necessary reforms.

Given the status quo situation, the departure of some teachers from vocational schools and the conversion of existing facilities and technical capacities is inevitable. Under status quo conditions, the introduction of dual systems in countries with school-based vocational training would lead to a significant increase in the number of teachers being laid off. While 80 to 100% of the training time in school-based vocational education is spent in school, this share drops to 25 to 30% in dual systems. However, the

large-scale release of these capacities should be seen as an opportunity, given that they are urgently needed for new tasks in vocational education.

Close, constructive cooperation on an equal footing between the companies providing training and the vocational schools is of crucial importance in order to ensure direct communication, a high level of flexibility and rapid adjustments. Dual systems require close cooperation between the vocational schools and the companies providing training. Vocational schoolteachers have to win over companies for in-company training, advise them continuously on how to implement it and coordinate the theoretical education provided at their schools with the practical training inside the companies.

Where possible, theory should be taught in parallel with practical training. If more comprehensive theoretical topics require continuous teaching, the latter can be scheduled in longer blocks that, to a certain extent, function as basic theoretical training. Vocational schools have to display a high degree of flexibility and personal responsibility in order to tailor the content and formats of their courses (teaching in blocks or day classes, block lengths, project work, etc.) to the specific requirements of each profession, always in close coordination with the companies themselves.

Dual systems of vocational education and training inevitably require close and seamless cooperation between the two places of learning – companies on the one hand and vocational schools on the other. In the framework of this cooperation, vocational schoolteachers also have to undergo regular training and longer work placements with companies in order to gain in-depth knowledge of their needs and to strengthen the partnership.

Yet another new and important mandatory task for vocational schools is the provision of vocational guidance for young people, which requires considerable strengthening and re-alignment. Young people often find it very difficult to choose an occupation or a course of study. They are hardly aware of their own abilities, have very limited information at their disposal, are not familiar with many occupations and know very little about the requirements, expected skills, etc. associated with various professions and the special conditions prevailing in SMEs. Young people often do not have access

to sufficient information, and the opportunities for career and academic guidance available to them tend to be inadequate, given that they neither sufficiently consider their own individual abilities, nor the requirements of the labour market and the skills and qualifications needed for the various professions.

It is therefore very important to develop job-specific skills profiles, which can then be compared with the carefully identified individual skills of each young person. The often far too high transfer and drop-out rates can be significantly reduced through careful counselling and preparation for vocational training.

Comprehensive counselling and assistance in choosing an occupation should become one of the core tasks of vocational schools. In the framework of dual vocational training, the schools can harness their differentiated knowledge of the various occupations and the close contacts with companies that they inevitably need to build up to arrange work placements for their students.

Within the 3LOE project, a tool for vocational and qualification counselling is being developed, tested and evaluated, which is available free of charge to vocational schools and business organizations for vocational and educational counselling. A train the trainer programme will also be developed and implemented to train teachers and counsellors in the use of this tool.

Vocational schools should develop and implement specific integration measures for young people who are unable to obtain an apprenticeship even after benefiting from intensive counselling, support and the placement assistance of their teachers, following the success of the so-called Hamburg model, for instance. In this model, young people who require special assistance participate in a year-long professional qualification scheme, which makes their choice of occupation more secure, reduces dropout rates and significantly enhances their level of integration and their chances on the labour market.

With the exception of Scandinavia, all other Baltic Sea countries fall significantly short of the EU target of an annual further education rate of 15%. Further education

rates are particularly low in Estonia, Latvia, Lithuania and Poland, due to a lack of staff, facilities and technical training capacities. As a second step in the introduction of dual vocational training, vocational schools, acting in cooperation with self-regulatory bodies and professional associations, need to offer a comprehensive program of further education for companies and their employees, which also needs to be properly designed and planned.

Through the introduction of dual vocational training, vocational schools should aim to transform themselves into centres of vocational excellence, based on a reliable regulatory framework that gives them a high degree of individual responsibility and planning security. These centres should be operated jointly by or in close cooperation between vocational schools, universities and self-regulatory bodies and, by performing all tasks relating to vocational training and the promotion of innovation, they can also act as growth engines for regional development:

Stage 1: The implementation and sustainable delivery of dual vocational training.

Stage 2: The implementation of vocational further education within dual systems, including master craftsman and technician training.

Stage 3: The implementation of dual bachelor's programs and innovation promotion programs.

In view of these important, far-reaching new tasks of vocational schools, the introduction of dual vocational education should under no circumstances lead to a reduction in their staff levels, facilities and technical capacities or to a reduction in public funding. On the contrary, public funding needs to be increased in order to modernize the vocational schools, bring them up to the latest technical standards, provide ongoing training for teachers and enable them to perform these wide-ranging new tasks. Teachers also need to undergo comprehensive further education in order to be able to perform these demanding tasks. And when it comes to filling new teaching positions, the aim should be to recruit the best teachers who should also receive competitive and performance-based salaries.

Prior to the introduction of dual vocational training, the management and teaching staff of vocational schools need to be fully informed and prepared. To this end, two "Train the Trainer" programs for vocational schools have been developed, tested, evaluated and implemented as part of this project, namely for

- a) dual vocational education and career guidance,
 - b) conduct dual vocational training and
 - c) further vocational education, technician and master craftsman training,
- which can be used free of charge.

2.5 How to transfer, implement and design dual systems

To facilitate the transfer of dual systems, the occupation-specific curricula, training regulations, teaching materials, examination rules, etc. should be translated into the national language, wherever possible, but should at the very least be available in English. Under no circumstances should the implementation be forcibly imposed. Instead, cultural factors and differences should be taken into account and promoted, with allowances for specific local conditions. The transfer recipients themselves should align and adapt the system to local needs, aided by in-depth consultations with teachers who have extensive experience with dual vocational training in the respective field. At the same time, the dual systems and models of other countries should also be considered in order to make full use of best practices. Ultimately, the transfer recipients – the vocational schools acting in consultation with the companies providing training – must decide for themselves what they want to implement and in what form, while adhering to the basic principles of dual vocational training.

In each case, teachers with extensive experience in dual vocational training should monitor and evaluate the implementation process. Continuous improvement can be achieved if there is a constant feedback loop that integrates the evaluation results into

the ongoing implementation process. As part of the present project, such evaluation concepts have been developed and successfully implemented, and these are available free of charge.

In order to create additional training places, it is also possible to organize joint programmes in which two or more companies collaborate to train young people. If not enough training places are available, the in-company training component of the programme should take place in an inter-company training workshop. Nevertheless, the participants should not be treated as students, but should receive a regular training contract like all other trainees, with the associated social benefits and (reduced) training allowances, which need to be publicly funded. At the same time, it is important to continue informing, qualifying and recruiting companies for participation in dual vocational training so that these young people are eventually able to transfer from the training workshop to a company placement. Workshops, company meetings, exchanges of experience and other forms of personal information offer excellent opportunities for companies not yet involved to learn from companies that are already providing training – there are no better multipliers than entrepreneurial success and learning from practical examples.

Programs for implementing dual vocational training should learn from mistakes made in other regions and be designed in such a way that they also eliminate existing problems.

In some countries where school-based vocational training is the norm (e.g., Lithuania), the training periods are extremely short and need to be extended in order to ensure comprehensive learning and in-depth practical experience.

Another problem – which also occurs in the German dual system – is that young people with learning difficulties are unable to obtain apprenticeship places or fail in their vocational training, particularly in the school-based theory lessons. The dropout rates are far too high and need to be significantly reduced. Vocational education and training must take sufficient account of individual skills and opportunities and requires a high degree of differentiation. By introducing different levels, young people with

different educational backgrounds are given the opportunity to receive training that matches their abilities:

a) Level 1: Specific vocational training courses for people with learning difficulties with a duration of two years, which focus on practical learning and conclude with a recognized, independent qualification below the level of the skilled worker or journeyman examinations.

b) Level 2: Intermediate vocational training programs comprised of both practical and theoretical instruction with a duration of three years, which conclude with a recognized qualification as a skilled worker or journeyman.

c) Level 3: Advanced vocational education programs for fast learners with a duration of three years that either provide additional qualifications or integrate further education into the initial vocational training course and conclude with recognized qualifications above the level of the skilled worker or journeyman examinations.

Such a differentiated system of vocational training needs to ensure a high level of transferability. Students who complete a lower level of training must have the unrestricted right to attain the next higher level in accordance with their progress and performance while taking into account the training components that they have already completed. Conversely, it must also be possible to switch from higher-level training courses to lower-level ones while already completed training units into account. Open systems that offer full transferability enable step-by-step learning in accordance with individual abilities and skills. In principle, vocational training and further education qualifications are within any-one's reach, though there are different ways of attaining them, in accordance with learners' individual learning outcomes and personal development.

Particular attention must be paid to Level 1 "Specific vocational training courses for people with learning difficulties". A high proportion of school leavers (10% or more in some countries) currently do not receive any vocational training due to learning difficulties or social problems. However, the aim of vocational training must be to integrate all young people. For this reason, the 3LOE project developed a political concept for

the training and integration of young people with learning difficulties, analysed and transferred international best practices and developed, tested, evaluated and implemented a specific vocational training course for building insulation specialists.

3. Political concepts for the training and integration of young people with learning difficulties¹³

3.1 Introduction

Many young people in Europe are going through tough times due to limited opportunities and job prospects. Their struggles are often linked to their backgrounds, school performance, and skills. The global economic crisis and Europe's economic troubles have made it even harder for them to find jobs and move ahead in life.

To address these issues, the European Union in Council Recommendation of 24 November 2020 on vocational education and training (VET) for sustainable competitiveness, social fairness and resilience invited member states to work towards implementing a vocational education and training policy which:

- equips young people and adults with the knowledge, skills and competences to thrive in the evolving labour market and society, to manage the recovery and the just transitions to the green and digital economy, in times of demographic change and throughout all economic cycles,
- fosters inclusiveness and equal opportunities and contributes to achieving resilience, social fairness and prosperity for all and

¹³ Prepared by National Centre for Education Latvia

- promotes European vocational education and training systems in an international context so that they are recognized as a worldwide reference for vocational learners.

These plans aim to help young individuals facing challenges. They emphasize that difficulties in accessing vocational education not only make people feel left out but also prevent us from benefiting from everyone's unique skills. The main goal is to break down barriers, promote inclusivity, and make the most of the diverse talents within the population for the betterment of society.

Inclusive VET in the European Union is about fairness and making sure everyone has the chance to learn, find a good job, and succeed. This means developing and putting into action policies and plans that consider the different needs of learners. The goal is to make sure that all individuals, no matter where they come from or their situation, can easily get an education and find job opportunities.

3.2 Target Group and policy Background

The target group of this paper is the learners who have entered vocational education after finishing basic education following the special educational programs for learners with learning disabilities, speech and language impairments, mental health problems, and others who have exhibited difficulties in learning and who needed support to succeed in learning, learners who for different reasons have not completed the compulsory basic education as well as learners with migrant background who have not yet mastered the Latvian language properly.

[1] The Latvian Sustainable Development Strategy until 2030 (Latvia2030) defines Latvia's long-term development vision. It is the highest national level long-term development document and the main planning document that defines the spatial development perspective - an integrated view of the country's balanced and sustainable development.

[2] The National Development Plan for 2021-2027 (NDP2027) is Latvia's highest national-level medium-term planning document. It has been developed in accordance with the Latvia2030 and the UN Sustainable Development Goals (SDGs) so that the quality of life improves for each individual, and society as a whole over the next seven years.

NDP2027 states that inclusive education must provide an environment conducive to well-being and empathy among younger generations. To ensure this, education institutions need strengthening, and strategic and sustainable support systems need to be created. The system and conditions in all educational institutions must support the inclusion of children and young people with special needs and at socio-economic risk, as well as the elimination of emotional and physical violence.

Some of the measures implemented to support this will be:

- Prevention and interventions to reduce the risk of early school leaving and encourage social integration (cooperation between schools, support staff, parents and institutions; development of social life skills; involvement of support staff; individualized learning support; early diagnosis of educational needs; support for disadvantaged youth).
- Development and provision of individual and institutional support for children and young people at risk of socio-economic difficulties and abuse (young parents, students from poor and socially vulnerable families, children of return migrants and migrants) by: providing material support (scholarship funds, covering the transport, catering, service hotel expenses); and other types of support (language learning, psychological, mentoring, coaching).

[3] The Education Development Guidelines (Guidelines 2027) are a medium-term policy planning document that defines a unified state policy and development strategies in education from 2021 to 2027. The guidelines specify the overarching goal and objectives of education policy, the main directions of action and tasks for achieving the set goals, policy results and performance indicators. The guidelines cover all types and

levels of education. The main goal of the Guidelines 2027 is to set Latvia's priorities in providing a high-quality and inclusive education and training system for all its citizens, and to support sustainable national growth.

Guidelines 2027 highlight the following essential future characteristics of the Latvian education system:

- individualized learning approach, where the educational offer meets the needs and capabilities of the individual.
- balanced learning of skills appropriate to future needs, which covers both general or interdisciplinary skills (including self-directed learning, civic participation, digital skills, etc.) and specific knowledge and skills relevant and useful for the labour market, which is ensured by effective cooperation between the education sector and economic sectors.
- functional transformation of educational institutions, with educational institutions becoming "learning organizations" that offer diverse learning opportunities, learning environments and approaches for diverse audiences - children, young people, adults.
- an improved education management system, in which, with the cooperation of interested parties, the activity of the industry is strategically planned, following the research identified future needs.

3.3 Vocational Education

In Latvia the task of vocational education is to prepare the learner for work in a specific profession and to promote personal development, to promote knowledge, skills and attitudes that lead to vocational qualifications and support competitiveness in changing socioeconomic conditions, to create motivation for professional development and continuing training, and prepare learners to continue education at a higher vocational education level.

Vocational education and training (VET) in Latvia are offered at three levels:

- vocational basic education (integrated primary and lower secondary).
- vocational secondary education.
- vocational higher education.

Most vocational education learners are at secondary level. This share has increased in recent years. VET provides learning opportunities for early leavers from education and training. With more investment in infrastructure and the development of new programmes, VET attractiveness is increasing. A validation system for professional competences acquired outside formal education has been available since 2011, allowing direct acquisition of professional qualifications at EQF levels 2 to 4. (Cedefop)

Alongside with investments in infrastructure the VET curriculum reform has been implemented. VET programs have been divided into modules based on learning outcomes to be achieved as an assessable and provable set of knowledge, skills and competences. This approach allows to be more flexible in meeting the rapidly changing needs of the labour market as well as to issue a state-recognized document not only for the completion of the entire professional education program, but also for the completion of certain parts of the program. VET programs include sector-specific and general competences.

In Latvia work-based learning (WBL) as an educational approach in vocational education was introduced in 2013 in the form of pilot projects, and in 2016 it was adopted by the regulation of the Cabinet of Ministers “Procedures for Organisation and Implementation of Work-based Learning”. Today it is a high-level education and employment policy priority in Latvia. WBL means that a student at a vocational school during the programme of WBL acquires theory and practice of vocational content of education programme in an education institution and in a company according to the individual plan of the appropriate education programme. Learning based in the work environment requires that at least 25 percent of the total educational program should be learned in the company. The company can organize not only practice of professional content, but also theory.

A VET school has the overall responsibility for the implementation of the WBL pro-gram. A tripartite agreement – school, student and company – has to be concluded. Additional bi-lateral agreement is concluded between the student and the company – on wage in case of job contract, or agreement on the allowance. Apart from the wage/ allowance also the individual labour protection means, and the civil liability in-surance of the learner are ensured in accordance with the training contract. A train-ing plan is agreed between the school, the employer and the apprentice. The pro-gramme (its mode of delivery) is adapted at school and company level to meet the needs of appren-ticeships.

3.4 Legislation Framework

Education Law in Section 2 of Chapter 1 states that the purpose of this Law is to ensure that every resident of Latvia has the opportunity to develop his or her mental and physical potential in order to become an independent and a fully developed individual, a member of the democratic State and society of Latvia.

Section 3 stipulates that everyone has the right to qualitative and inclusive education and 31 states that everyone have the right to acquire education regardless of the material and social status, race, nationality, ethnic origin, gender, religious and political affiliation, health condition, occupation, and place of residence.

Section 55. of the Law on the Protection of the Children's Rights speaks about special care for children with special needs stipulating that the State and local governments should assist children with special needs to integrate into society and ensure for them education, health care, and social services in accordance with laws and regulations. This law also stipulates that Pedagogical and social workers should be specially trained for work with children with special needs and the Ministry of Education and Science and the Ministry of Welfare are responsible for drawing up special training programmes.

Section 44 (1) of Education Law describes vocational education programs as programs which provide an opportunity to acquire professional qualification at the appropriate level, to develop professional competence, and also to acquire academic qualifications and professional qualifications at the appropriate level.

Vocational Education Law governs implementation of vocational basic education, vocational secondary education and continuing vocational education and the award of a corresponding professional qualification.

The learners after graduation from the basic education can enter the secondary vocational education, but those who have not finished the basic general education can enter basic vocational education on graduation of which they are also receiving certificate of general basic education.

According to the law (Sec.6, §9) a learner who has completed a module or several modules of an accredited modular vocational education program that are recognizable in the labour market and identifiable as a set of assessable knowledge, skills and competences, but which do not certify the obtaining of a professional qualification, shall receive a certificate issued by an educational institution for the completion of the respective module or modules.

Section 1, §71 of the Education Law provides the definition of the education quality: educational process, content, environment, and management which provides every-one with inclusive education and the possibility to reach high quality results according to the objectives brought forward by the society and specified by the State.

The Amendments to Vocational Education Law entering into force from October 11, 2022, stipulate that each vocational education school develops its institutional strategy. The institution's strategy is a five-year development plan based on the strategic specialization of the school and includes specific achievable goals and tasks of the institution and vocational education.

VET institution development strategy is the document where schools can plan implementation of inclusive VET education together with action points how to integrate the students with learning difficulties.

In Latvia both policy initiatives and legislation with regard to inclusive education and support provision to students is in place and theoretically nothing hinders schools to make vocational education and training more inclusive for trainees with learning difficulties and other impairments. However, due to different reasons VET schools find it challenging to include students with learning difficulties. One significant obstacle lies in the limited experience that VET schools possess in effectively accommodating such students. This lack of familiarity can stem from a multitude of reasons.

Firstly, the traditional model of VET education may not have been designed with the diverse needs of learners with disabilities in mind. Consequently, educators and administrators may lack the necessary training and expertise to adequately support these students. The absence of tailored teaching methodologies and resources further exacerbates this issue, making it difficult for VET institutions to cater to the unique learning requirements of individuals with disabilities.

Moreover, institutional constraints, such as limited funding and resources, can impede the implementation of inclusive practices within VET schools. Adapting physical infrastructure, acquiring assistive technologies, and hiring specialized personnel all entail additional costs that many institutions may struggle to afford.

Furthermore, attitudinal barriers among educators and peers can hinder the integration of students with learning difficulties into VET programs. Preconceived notions about the capabilities of individuals with disabilities may lead to lowered expectations and inadequate support, ultimately perpetuating a cycle of exclusion.

Addressing these challenges necessitates a concerted effort to enhance the capacity of VET schools in accommodating students with learning difficulties. This may involve providing comprehensive training and professional development opportunities for

educators, fostering a culture of inclusivity within educational institutions, and allocating sufficient resources to support the diverse needs of all learners.

3.5 Suggestions for Provision of Support in Vocational Education

In general education settings inclusive education practices and use of support measures is more developed than in VET education. For example, the Regulations of the Cabinet of Minister from November 19th, 2019, no 556 “Requirements for general education institutions to enrol students with special needs in their educational programs” envisage the provision of educational support to learners in basic education.

Section 53 §2 of the General Education Law speaks about the enrolment of students with SEN in General Education Programmes emphasizing that the educational institutions shall draw up an individual plan for the completion of an educational programme for each enrolled student with special needs.

However, education legislation does not envisage similar support for the above-mentioned target groups in vocational education.

Learners who have struggled to acquire the basic education programs also need support in further education, e.g., vocational education. They need the continuum for support both in academic studies and in acquiring professional skills.

Further we have identified some steps to start with (continue) in order to make vocational education and training in Latvia more inclusive for students with special learning needs.

Support Team at School

To start with and more successfully implement the goals of inclusive education and provide help for every learner to get quality education, educational institutions can create support teams. The support team is a group of specialists who within the scope of

competence provides pedagogical, psychological and social assistance for learners, involving their parents, pedagogues, employees of educational institutions.

Some of the tasks of school support team may include:

- provision of systematic pedagogical, psychological, social support for learners, their parents, and teachers.
- creation and promotion of inclusive environment and students' socio-emotional wellbeing at school.
- promote students' socialization and better adaptation in a new school.
- inclusion of different learners in the educational process.
- promotion of the professional development of teachers and other employees, raising parents' awareness of inclusive education issues, etc.
- cooperation with companies/ tutors to inform about student's special learning needs.
- career guidance support.
- continuous monitoring and evaluation to make sure everything is working well as inclusive VET policies stress the need to always check and see how things are going.

Support during the Teaching Learning Process

The acquisition of theoretical subjects requires similar support measures to what the students have received in basic education and such support needs to be continued.

It may include:

- the use of ICT (relevant software programs, on-line applications, voice recorders, etc.).
- prompts which help to acquire and understand the context of learning.
- accessible learning materials (e.g., bigger font, more visuals, symbol language, etc.).
- provision of mentors.
- peer-learning groups.

- involvement of paraprofessionals (e.g., social workers, career advisers, psychologists etc.).
- extra time for completing tasks.
- reduced writing tasks.
- reduce classroom chatter to a minimum.
- visual aids and multi-sensory learning techniques.

As vocational education and training programs in addition to theoretical knowledge include also the development of professional skills a set of necessary support measures becomes more complex and apart from school involves more players.

Individual Learning plans

Currently, the number of companies and vocational education institutions that are involved in WBL training is increasing, thus the question of the quality of WBL is becoming more relevant. One of the prerequisites for high-quality practice is well-prepared workplace tutors and provision of an individual approach to each student, taking into account the student's professional interests, personal goals, career plans and abilities. Although the creation of an individual plan for students participating in WBL is a mandatory requirement existing practice shows that it is still a big challenge for many tutors due to a lack of knowledge and skills.

It is envisaged that during 2021- 2017 planning period significant funding will be allocated for the implementation of individual approach and student support in VET education.

As regards individual plans there already exist some good practice examples from previously implemented Erasmus + projects which may contribute to the development and implementation of Individual Learning Plans. E.g. Erasmus+ project “Individual Approach and Individual Learning Plan in WBL: Training for WBL Tutors (ILP4WBL)” No: 2018-1-LV01-KA202-047004. Implemented by the National Centre for Education of the Republic of Latvia from 2018 – 2020 aimed at improving the skills

of school and workplace tutors to use the individual approach and develop individual learning plans in work-based learning.

Support during Work based Learning periods

European Centre for the Development of Vocational Training (Cedefop) emphasizes the necessity “for comprehensive support to tackle complex needs as for many young people, an apprenticeship or work-based training as part of a vocational programme, is their first experience in the world of work. Finding a welcoming and supportive work environment, where there are good learning opportunities, can be very motivating and contribute to attaining a qualification.”

Such a comprehensive support can only be implemented by establishing a good cooperation and communication system between schools, employers and other stakeholders including, among other things, common professional development activities for school and company tutors who are the key persons in providing students with good first working life experiences.

Work-based learning for students with special learning needs, also known as supported employment or vocational training, is an essential approach to help individuals develop job skills and gain meaningful employment. This type of training focuses on providing tailored support and accommodations to meet the unique needs of individuals with disabilities or learning challenges. Here are some key considerations and strategies for implementing work-based training for people with special learning needs:

- **Individualized Assessment:** Begin by conducting a thorough assessment of each individual's strengths, skills, interests, and support requirements. This assessment should take into account their cognitive abilities, communication skills, motor skills, and any specific learning challenges they may have.
- **Tailored Training Plans:** Develop individualized training plans that align with the strengths and goals of each participant. These plans should outline specific learning objectives, identify appropriate training strategies, and incorporate any necessary accommodations or modifications.

- **Job Shadowing and Internships:** Provide opportunities for job shadowing and internships, where individuals can observe and learn from experienced workers in their desired fields. This hands-on experience can help them understand the expectations of the job and develop relevant skills.
- **On-the-Job Training:** Offer on-the-job training in a supportive and structured environment. Break down job tasks into smaller, manageable steps, and provide clear instructions and demonstrations. Gradually increase the complexity of tasks as the individual progresses.
- **Structured Learning Environment:** Create a structured and predictable learning environment that includes visual supports, schedules, and clearly defined routines. This helps individuals with special learning needs understand expectations, reduce anxiety, and stay focused on their training.
- **Assistive Technology and Tools:** Utilize assistive technology and tools, such as screen readers, speech-to-text software, adaptive keyboards, and visual aids, to support individuals with specific learning challenges. These tools can enhance their ability to access and participate in training activities.
- **Job Coaches and Mentors:** Assign job coaches or mentors who can provide one-on-one support and guidance to individuals during their training and employment. These professionals can help individuals navigate job tasks, address challenges, and build confidence.
- **Collaboration with Employers:** Foster strong partnerships with employers who are willing to provide inclusive work opportunities. Educate employers about the benefits of hiring individuals with special learning needs and collaborate on job modifications and accommodations that promote success.
- **Ongoing Support and Progress Monitoring:** Continuously assess and monitor progress throughout the training process. Provide ongoing support and interventions as needed to address any difficulties or barriers that arise. Regular feedback and evaluation help individuals improve their skills and adjust their training plans.

- **Transition Planning:** Prepare individuals for the transition from training to independent employment. Develop transition plans that include strategies for job retention, ongoing skill development, and accessing community resources and support services.

Every individual is unique, and their training needs may vary. Flexibility, patience, and a person-centred approach are crucial in supporting individuals with special learning needs on their journey towards meaningful employment.

Strengthening inter-institutional Cooperation

Institutional cooperation is one of the most essential conditions for providing meaningful support to students with learning difficulties and preventing the risks of early school leaving.

In Latvia several interinstitutional cooperation models are already in place and they need to be strengthened in order to provide support to all students with learning difficulties and special needs.

Inter-institutional cooperation takes place on municipality and on the national level. However, not every municipality has established an inter-institutional cooperation model and defined responsibilities and duties of the participating institutions.

On a national level the National Tripartite Sub-council for Cooperation in Vocational Education and Employment reviews policy proposals and drafts legal norms for vocational education, human resource development and employment; it evaluates and proposes changes in management, funding and implementation of vocational education; it endorses occupational standards; it endorses annual student enrolment plans prepared by sectoral expert councils.

The Sub-council has been established to promote the cooperation of the Cabinet of Ministers, employers' and employees' (trade unions) organizations in the field of development and implementation of the national policy and strategy of human resources development, education and employment.

Sectoral expert councils (12) also operate on a national level and propose solutions for long-term human resources development in their respective sectors and ensure that vocational education provision is in line with labour market needs. This includes participation in development of sectoral qualifications frameworks (SQFs), occupational standards, education programmes, quality assessment procedures, work placements, and apprenticeship-type schemes, make proposals for VET curricula, nominate experts for accreditation of VET schools and curricula.

Collegial advisory bodies (conventions) exist in each vocational education institution. Employers or representatives of employers' organisations, representatives from local government, and representatives from supervising ministries form these conventions. They help shape the development strategy of the education institution, and they contribute to its cooperation with local enterprises, to ensure students' work placements outside school and apprenticeship-type scheme opportunities.

All the above-mentioned cooperation frameworks could enlarge the scope of their activities and also address issues regarding support to VET students with learning difficulties for better integration into the labour market.

3.6 Good Practice Examples from Partner Countries

This Concept paper is developed in the frames of EU Erasmus+ program project “Three-level Centers of Professional Excellence: Qualification, Entrepreneurship and Innovation in the Green Economy”. Throughout the lifetime of the project, the 3LoE consortium implemented a diverse array of vocational education, training, and higher education measures.

Some of the project partners possess significant expertise in delivering vocational education tailored to the needs of students with learning difficulties. Their extensive experience serves as a valuable resource for the project, offering insightful examples and best practices that can be adopted and adapted by other partners. These examples

serve as practical demonstrations of effective teaching methods, curriculum design, and support strategies that have proven successful in empowering students with diverse learning needs. By leveraging the knowledge and experiences of these partners, the project can enhance its overall effectiveness and contribute to improving vocational education outcomes for students with learning difficulties across participating institutions. Project consortium partners have kindly provided good practice examples from their countries supporting integration of young people with learning difficulties into VET

3.61 Austria

Overview - Inter-company apprenticeship training

Austria has a system of inter-company apprenticeship training. This enables young people to complete dual vocational training (initial training), even if they have been unable to find an apprenticeship in a company "despite all their efforts". Instead of working in an apprenticeship company, young people are given the opportunity to complete practical training in an inter-company training-organization, a type of workshop within a school facility. Some school facilities offer practical and theoretical lessons in one, while others co-operate with specific companies.

Source: Inter-company apprenticeship "shortened apprenticeship" | AMS; 20231222

The advantages of dual vocational training in an inter-company training center are comprehensive training, which includes practical and theoretical lessons, with special support from highly qualified trainers to prepare participants for the final apprenticeship examination in the best feasible way:

Source: hAc training branches - Kroiss GmbH craft training centre. 20231222

The craft training centre (hAc for short) in Gloggnitz, can be cited as an example of best practice because it is run by a committed entrepreneur who has run his own

business for many years. As an enthusiastic “master craftsman” he can give the apprentices the everyday life of an entrepreneur.

hAc - (Inter-company) Craftsmanship Training Centre, Gloggnitz – in Detail

The hAc - craft training centre in Gloggnitz was awarded the state prize for "Best Training Companies - Fit for Future" in 2015.

The aim of this training project is to provide theoretical and practical training for young people in accordance with the Vocational Training Act in the construction and furniture carpentry and tinsmithing. The young people are given the opportunity to complete their entire apprenticeship in a renowned training company. In addition, the young people receive socio-educational counselling and support from BFI NÖ (Vocational Training Centre, Lower Austria) concerning i.e.:

- Financial, legal, and personal problems,
- Motivation to achieve the training objective and enter the labour market,
- Special learning support to prepare for vocational school,
- Conflict resolution strategies and much more.

This successful establishment is preceded by a long history of tradition as a family business: Kroiss GmbH was founded in 1966 by Wolfgang Kroiss as a small construction and furniture joinery. His son Werner took over the business in 1988 and continued to expand it. After specializing in window construction for many years, the company broke new ground in 2006 and began a successful collaboration as the Gloggnitz craft training centre (hAc) on behalf of AMS NÖ (Public Employment Service, Lower Austria) and BFI NÖ (Vocational Training Centre, Lower Austria), offering a wide range of courses in the fields of construction and furniture carpentry and tin-smithing.

As part of the inter-company apprenticeship training programme, 78 training places are available for apprentices in the fields of construction and furniture carpentry and tinsmithing. Of these places, up to 20 % are taken up by women for technical-craft vocational training. Both occupational groups

- can be started every year,

- comprise an apprenticeship period of 3 years,
- including attendance at vocational school and
- the final apprenticeship examination.

Apprenticeship as a Tinsmith

Tinsmiths process all types of sheet metal as well as steel and sheet metal profiles. The work is conducted in workshops and on construction sites (assembly). Despite the use of modern machines, a lot of manual labour is required in this profession. The profession of tinsmith is a very traditional one, but in today's economy it is in short supply and therefore in high demand.

The tinsmith trade is a very extensive trade. The advantage of the Gloggnitz Craftsmanship Training Centre (hAc) is that it covers all specializations in this trade with its training opportunities. The training programmes cover the areas of building tinsmithing, ventilation tinsmithing, gallantry tinsmithing as well as façade technology, hall construction, apparatus engineering and insulation technology.

Apprenticeship as a Carpenter and Cabinetmaker

The carpentry trade includes the areas of construction and furniture carpentry, such as the manufacture of windows and doors, furniture, and staircase construction as well as flooring and structural timber construction.

Today, highly technical, and computer-controlled machines are used during training as a carpenter. Apprentices receive extensive training in the use of these machines during their apprenticeship. Manual work is also an essential part of the apprenticeship programme. The work is conducted from the start of production through to assembly. Carpenters employed in commercial enterprises produce customized products, although large companies also produce series. Taking the customer's wishes into account, carpenters produce design sketches and 3D drawings for the manufacture of the products. Nowadays, carpenters process diverse types of wood and plastics according to the latest technical guidelines.

(Inter-company) Craftsmanship Training Centre, Gloggnitz (hAc) – General Overview

In total - around 100 training places for highly qualified training and further education are available on a total of 1800m². In the workshops, young people are taught theoretical and practical knowledge and skills as part of apprenticeship training in the fields of construction and furniture carpentry and tinsmithing. In addition, there is also training in specialized assistant training for wood and metal processing in adult education. Since 2018, adults have also been trained as bodywork technicians in an 18-month intensive training programme.

3.62 Germany

Approach to integrating and supporting young people tackling learning challenges in Germany.

In Germany, the following models and support measures are primarily used to integrate young people with learning and/or social difficulties into vocational training.

1. Vocational school and remedial teaching

In Germany, school attendance is compulsory until the age of 18. Anyone who is not integrated into a vocational training program (or a course of study) after completing general schooling must attend a vocational school (11/2 to 2 days a week or a corresponding block of lessons) until they reach the age of 18. The curriculum is designed to meet the needs of this target group. During the time when there are no vocational school lessons, various individual support measures are carried out, such as catching up on school-leaving qualifications, job application training, internships in companies, instruction in inter-company training centres, etc.

2. Specific vocational training courses with a recognised qualification

Normal vocational training in Germany lasts 3 to 3 1/2 years and the qualification is at EQF level 4. Young people who do not obtain a training place during this training or who drop out of a training program they have started (10 - 12 %) primarily fail because of the theory lessons at vocational school.

Specific two-year vocational training programs with a recognized EQF Level 3 qualification have been created for these target groups. If they successfully complete the programme, they can either start work or receive vocational training in a corresponding occupation with a qualification at EQF Level 4, whereby the training periods already completed, and skills acquired are taken into account.

This model leads to a high level of integration success but is only implemented to a limited extent in Germany (e.g. phased training in construction) because the trade unions in particular are against it, as they require all young people to obtain a qualification at EQF Level 4.

3. Hamburg model

The HM is the training offer for young people which have not found their training opportunity in the dual vocational training system despite the training maturity and the available multiple application attempts. In the PQ, the first training year of the HM, school age young people who reached training maturity are admitted; as a rule, they are graduates of district schools who will not succeed or haven't succeeded to make a transition to the dual vocational training at the end of the 10th school attendance year (so called "market disadvantaged" young people).

The Hamburg integration model has been implemented with great success for many years in Hamburg and now also in many other federal states. The integration success rate is around 90 %.

This model has also been transferred to Lithuania, Poland and Hungary and successfully implemented there.

4. Assisted apprenticeship

The term refers to an extensive individual and needs-oriented support offer for young people who want to start or continue an apprenticeship.

This target group often has greater difficulty starting apprenticeship directly on the primary labour market due to learning and educational deficits or a variety of social problems. Support for learning disabilities is an essential component.

So-called “apprenticeship counsellors” are used to determine on a case-by-case basis what specific support the young person needs. The training support includes in particular:

- social-educational support,
- various measures to stabilize the vocational training relationship,
- offers to reduce educational and language deficits,
- offers to impart specialist theoretical skills, knowledge and abilities.

The young person receives individual and continuous support and social-educational support, including in the company. The counsellor of assisted training provides them with a permanent training companion for the entire duration of the funding.

The program also supports apprenticeship companies if they apprentice a young person as part of this funding measure. Funding for apprenticeship companies is e.g. possible before the start of training if their aim is to train a young person who is eligible for funding.

Operational support is provided, for example:

- by providing assistance with the administration, organization and implementation of training, with the creation of a company training plan.
- Conducting regular discussions in order to identify possible difficulties in training at an early stage.
- Coaching of trainers. Participation in assisted training can begin at any time during the training.

The measure can also include a preliminary training phase in which the company can get to know the future trainee and receive further support from the training provider. The participants are selected by the responsible advisory specialist at the Federal Employment Agency (employment office). Companies that aim to train a young person who is eligible for funding can report their needs to the employer service of the Federal Employment Agency or the job center. Different providers (usually educational institutions with experience in supporting disadvantaged young people) can be selected by the Federal Employment Agency.

3.63 Italy

ITA EMILIO SERENI: a school and a farm is an agricultural and technical institute, with more than 800 students in two different sites (the main branch, the second, smaller, one and the section based in Rebibbia Jail). Inclusion has always been a central theme in the school. We must ensure appropriate assistance to all our pupils, through collaboration with families, local health organizations and local communities; at the same time, we must develop the national curriculum of studies providing students an adequate training and learning, to give them the skills necessary to find a job or to continue studying. Through the collaboration with families, local companies, commercial and productive activities, the school has to give practical experience about work to all of the students (schoolwork alternance, work related learning, learning by doing).

Flexibility in programming and delivering curricula (adaptation, when necessary, starting from individual strengths and weaknesses) is absolute necessary, through a personalization of assessment, giving importance to the entire learning process (not only to the final tests); promoting different teaching styles according to age and development, personality and learning styles; providing learning support (reasonable adjustments to learning and assessment materials).

Best practices in organizing teaching – learning activities in ITA EMILIO SERENI:

- Analyse training needs (strengths and weaknesses) and life context (family and class situation).
- Observe the strengths and weaknesses in the dimensions of relationships, interaction, socialization, communication, language, autonomy (semi-structured observation) also to prefigure possible obstacles to learning and prepare adequate strategies for intervention.
- Identify cognitive styles and learning methods (structured observation).
- Pay particular attention to the educational relationship and encourage a positive classroom climate.
- Identify the prerequisites (the starting levels) in a perspective that is as shared as possible, promoting self-evaluation processes and through reality tasks.
- Plan short, medium and long-term objectives, starting from individual expectations, both with respect to what is required by the organization (school) and in collaboration with external stakeholders.
- Present the theoretical contents and practical activities through a problem situation, to trigger the lesson (it can be a video, a testimony, a problematic situation to be re-solved that has arisen or could arise in the company).
- Identify and clearly explain the learning objectives and practical skills to be developed to solve the task or achieve the objectives, also through the use of images, symbols, slogans.
- Division of the task into sub-tasks and verbalization.
- Explanation of the steps to be taken to resolve the problem.
- Provide sub-objectives in a task analysis process (task analysis).
- Promote debate and sharing strategies. Ask students to make comparisons between the information and highlight any contrasts between them. Students can better remember what they learn if they have time to absorb it and the opportunity to talk about it, preferably in groups even with contrasting opinions (debate).
- Take breaks.

- Ask questions. When running a lesson, you can quickly go through many concepts at once. It is important to be able to assess how students absorb information. One way to do this is to try the pause, ask questions, pause, review technique. Plan the questions in advance and then ask these questions but give students enough time to think about them before answering (problem solving).
- Create a basic glossary, to be enriched according to each individual's abilities, with key words for the basic concepts that you want to convey, integrating the iconic language as much as possible. Highlight the more complex terms and use visual aids to explain them, if possible, showing links to the contexts with which you are more familiar with.
- Provide information and content using key words, graphic organizers, images, diagrams, maps to explain the basic concepts you want to convey, also thanks to the use of new technologies.
- Describe the concepts and activities performed and ask students to describe them, (this way, not only do students get a variety of ways to learn, but a teacher is also able to control what is understood).
- Promote tutoring and peer learning, also to promote the acquisition of SEL (Social Emotional Learning) skills.

3.64 Latvia

The career counsellor tailors their approach to align with the career education objectives of the educational institution and conducts research to understand the interests and needs of the students. They develop a personalized work plan for the year to support career development.

For students facing learning challenges, the career counsellor provides individualized assistance through one-on-one consultations. If ongoing support is needed, additional sessions are scheduled. These interactions help the counsellor gain a deeper understanding of the challenges, and they collaborate with educators to address them

effectively. This teamwork aims to help students overcome academic obstacles and stay motivated to learn, thus boosting their self-esteem and engagement.

In the counselling process, the career specialist assesses if a student is struggling in a specific subject and determines if they can manage independently or require additional support. They work closely with teachers to identify barriers to learning and assess if the difficulties extend across multiple subjects. The counsellor then collaborates with subject teachers to develop strategies tailored to the student's needs, ensuring they receive the necessary attention and support.

During discussions, the career advisor actively addresses the student's concerns, involving both the teacher and the student in finding solutions. They create a supportive environment where students feel empowered to take responsibility for their academic challenges and work towards improving their performance. The counsellor also ensures that students have designated times to seek assistance and monitors their progress closely.

To promote equitable treatment, the career counsellor identifies students who may need extra support during group activities to prevent disengagement. They integrate career support into the learning process to reduce the risk of dropout, collaborating with educators to assess student dynamics and strengths. Group sessions are used to model life skills and assist students in achieving their goals.

Career advisory services are available to all students, with teachers often recommending those with learning difficulties to seek assistance. The counsellor also works with parents to support students effectively and may organize joint support groups to address challenges collectively.

3.65 Lithuania

In Lithuania there is no specific integration framework for young people with learning difficulties into VET. However, students with special needs are provided with the

opportunity to learn together with other students in the framework of adapted VET programmes and to acquire qualifications or they can follow a training programme to acquire social skills. After completing a Social Skills Programme, the student acquires linguistic, cultural, social, general competences and the beginnings of vocational competences, according to his/her capacities and skills.

In 2020-2023 the National Education Agency implemented the project "If You Have a Profession – You Have a Future!" funded by the European Social Fund. It aims to provide opportunities for students from socially vulnerable groups to acquire profession. In order to achieve this objective, activities are being implemented to support the students at the level of vocational training (providing them with the necessary training tools and workwear, organising learning support (special educational assistance) and extracurricular activities (employment groups); improving the educational process in vocational schools (development of teaching materials and organization of trainings); expanding the vocational choices of pupils with special educational needs (purchase of tools for assessing the vocational orientation of pupils with special educational needs and training in their use).

Project target groups:

- Vocational students with special educational needs.
- Vocational students living in families at social risk.

Project results:

- Organising learning support and after-school activities groups.
- Development of teaching materials for the modules of the Social Skills Programme.
- Providing training on managing unwanted behaviour of pupils with special educational needs.
- Sets of tools to assess vocational orientation.
- Training and supervision in the use of the Work Skills Diagnostic Toolkit.
- Assessing pupils with special educational needs and making vocational recommendations.

The Ministry of Education intends to implement the piloted project model into the general and vocational education systems.

3.66 Poland

At VET school in Szczecin students who obtained “Individual Educational and Therapeutic Needs Statement” are entitled to:

- remedial classes,
- additional Polish language and mathematics classes,
- extended time during written assignments: quizzes, tests, classwork, and exams,
- assistance in organizing sessions with a psychotherapist.

Additionally, students with an opinion (not a statement) on learning difficulties are entitled to:

- undergo meetings with a school counsellor,
- extended time during tests and classwork,
- use of a separate grading system for written assignments,
- obtain assistance in organizing sessions with psychotherapists.

Students with opinions regarding physical disabilities are entitled to:

- physical exercises tailored to the student's needs and capabilities,
- additional School Sports Club activities on the sports field, if the parent has given their written consent.

3.67 Spain

One of the most important goals of education is to ensure that all students, regardless of their conditions and personal characteristics, can develop their abilities as much as possible.

Training centres for all imply that every student can participate and learn in the same school environment and obtain a response adjusted to their unique needs. This is a process of constant improvement in which the entire educational community must be involved.

We must live the difference as a positive factor and therefore look for more appropriate ways to respond to diversity, reducing the barriers that some students encounter when learning.

It is undeniable that there are different ways of learning and relating. Taking individual differences into account is essential for the educator. Recognizing and respecting each person's own learning styles and interests is the basis for students to develop their potential to the maximum and be the protagonists of their own learning process, improving results in all aspects.

The gap between the student's abilities and the demands of the educational context, which substantially affects development and learning, is considered a Specific Educational Support Need (abbreviated as NESE in Catalan).

Specific Educational Support Needs must be based on:

- the student's areas of strength
- previously acquired skills and the most effective learning method
- the curricular challenges the student faces
- personal or social conditions that interfere with the student's ability to learn

The Regional Ministry of Education at the Government of Catalonia (PP18 DEGC) has identified different Specific Educational Support Needs with the aim of providing

students with the necessary supports to promote their learning process under fair conditions.

Each NESE comes with a description, an educational response and a number of resources. For example, for visually impaired students:

The need to guarantee the inclusion of all students needs a task that often seems contradictory to the inclusive system: designating and defining the categories of educational support needs. However, these categories and definitions do not define the person. They define the temporary or permanent conditions in which the person finds himself or herself.

Disabilities and developmental disorders must be considered from the social model and addressed from the curriculum itself. Efforts must be made to ensure that students can access and participate in those activities that are essential for their development and learning in society.

Once the training centre has identified a NESE on a particular student, an Individualized Support Plan (known as PI in Catalan) will be designed in accordance with each specific case. The PI will also include the assessment and decision-making of the teaching teams (with the participation of the student and the student's family) regarding the planning of the measures and support activities that need to be adopted.

In the case of Institute Pere Martell, the steps to follow in order for a student to receive educational support are explained below.

1. A teacher identifies a certain difficulty on a student.
2. The teacher transfers it to the student's tutor.
3. The tutor interviews the student or his/her family (if under 18).
4. The tutor writes down the agreements of the interview and saves the document in the GDrive's "Individual tutoring" folder.

5. If the intervention of the school's Educational Counsellor is necessary, the tutor will complete the following documents, prior notice to the teaching team:

- a) "Authorization sheet"
- b) "Request for guidance"

In them, the tutor must explain the problem and the reasons why the student requires an educational intervention.

6. The documents that the tutor must provide to the school's Educational Counsellor will be uploaded into a GDrive's folder called "Guidance".

7. The school's Educational Counsellor will carry out the first follow-up on the student after the collection of basic information. If necessary, there will be an interview with the student's family, legal guardians, members of the teaching team and/or external services such as the Psychopedagogical Guidance Service, the Language and Hearing Support Unit, Social Services or the Child and Youth Mental Health Centre.

8. Then, the school's Educational Counsellor will meet the Psychopedagogical Guidance Service to monitor the student. There will also be a meeting with the Commission for Inclusive Educational Care according to their needs and demands.

9. Subsequently, the tutor and the school's Educational Counsellor will carry out, if necessary, the appropriate guidelines for psycho-pedagogical intervention based on the "Individualized Support Plan" or the "Curricular adaptation". This document will be drawn up by the tutor with the help of the guidance staff and will be taken into account at the teaching team meetings and the assessment sessions.

10. Finally, the school's Educational Counsellor will record the monitoring of the sessions with the student in the "minutes of the coordination meetings with the tutor".

3.7 Conclusions

- Integrating young people with learning difficulties into vocational education and training (VET) requires a comprehensive approach rooted in inclusive policies. These policies must prioritize accessibility, support, and tailored learning experiences to ensure equal opportunities for all learners.
- Successful integration relies on collaboration among various stakeholders including educators, policymakers, parents, and community organizations. By working together, we can identify barriers, develop effective strategies, and provide necessary resources to facilitate the learning process for young people with learning difficulties.
- Tailoring support to the individual needs of each learner is crucial for their success in VET programs. This may include specialized teaching methods, assistive technologies, mentorship programs, and counselling services to address academic, emotional, and social challenges.
- Creating inclusive learning environments goes beyond physical accessibility. It involves fostering a culture of acceptance, understanding, and respect for diversity. Educators should receive training in inclusive teaching practices to better accommodate the needs of all learners.
- Recognizing and celebrating the diverse abilities and achievements of young people with learning difficulties can boost their confidence and motivation. Highlighting success stories can inspire others and promote a positive perception of inclusion in VET.
- Integration efforts must be continuously evaluated and refined based on feedback from students, educators, and other stakeholders. This iterative process ensures that support mechanisms remain effective and responsive to evolving needs.

- Integrating young people with learning difficulties into VET not only enhances their employability and independence but also contributes to a more inclusive society. By tapping into the diverse talents of all individuals, we can build stronger communities and foster economic growth.
- Achieving full integration in VET requires sustained commitment from all stakeholders. Governments, educational institutions, employers, and civil society must prioritize inclusion as a fundamental value and allocate resources accordingly to ensure equal opportunities for all learners, regardless of their abilities.

In the 3LOE project, two dual vocational training programmes for young people with learning difficulties were developed, tested, evaluated and implemented very successfully:

- Specialist for building insulation: Curricula, implementation report, evaluation concept and report see result 3.4 Dual vocational training for people with special learning needs, www.3-loe.eu.
- Sustainable restaurant worker: Curricula, implementation report, evaluation concept and report see result 3.7 Two-year Training “Sustainable restaurant worker”, www.3-loe.eu.

4 Training programs for strong learners in initial vocational Training

The 3LOE project aims at promotion of work-based learning by introduction of dual vocational education and training, especially in countries with school-based vocational training. Dual training has proven to be particularly effective, however, attention should be paid to observe individual abilities and possibilities and better adapt to youth with different educational backgrounds, competencies, skills and learning progress. It

is of crucial importance for vocational training to attract young people with strong learning abilities and thus highly qualified skilled workers for companies. In order to increase the attractiveness of the 3LOE project, a third level was created for the vocational training of young people with strong learning abilities: Three years training for overachievers, including additional qualifications, completed with a recognized qualification above the examination level of skilled worker/journeyman (EQF Level 5)

Strong learners as well as trainees with proper training achievements in intermediate examinations can be granted a shortening of the regular vocational training time by up to one year. Such shortening is to be limited to half a year, while the second half of the year should be invested in transferring skills in technology and management of the Green Economy. In a sense, this is comparable to an early training, delivered already during vocational training.

Regardless of ways of shortening the training period, additional qualifications can be imparted during the regular training period or, alternatively, upon completion of vocational training.

Imparting additional qualifications allows for

- attracting skilled workers who have already acquired in-depth knowledge and skills in environmental techniques during or immediately upon vocational training.
- prompting stronger learners (e.g. with Matura (Abitur) or school leaving certificate (intermediate level)) towards completing vocational training that will be equivalent to advanced training qualifications and will serve as a door-opener to perfect career opportunities.
- to increase the attractiveness of vocational training, to attract young people with stronger learning abilities to vocational training and thus to meet the high qualification requirements and to make an effective contribution to overcoming the high and growing shortage of skilled labor in the future.

Learning results are based at EQF Level 5. Additional competencies and skills imparted during vocational training (EQF Level 4) are largely inter-occupational. Only

selective modules are job specific. The project will address in particular young people who are undergoing vocational training in relevant occupations, for example:

- specialists in wastewater technology
- specialists in recycling and waste management
- specialists in water supply technology
- plant mechanics for sanitary, heating and air conditioning technology
- gas and water fitters
- plumbers.

Following the example of VET, additional qualifications should be offered, if applicable, in a dual VET-system. To this end, in the project seven key modules were developed, tested, evaluated and implemented with the following scope of training:

- A Technologies in water supply
- B Technologies in water saving
- C Greywater and rainwater utilization technologies
- D Decentralized wastewater treatment technologies
- E Fundamentals of the circular economy
- F Systemic solution-oriented consulting

Participants may complete selective or all main modules, and for each completed main module an attendance certificate will be issued. Participants who complete all trainings are entitled to an advanced training exam with the degree “Environmental Consultant in... (followed by the name of the qualified occupation)”.

As part of the project, curricula and teaching materials for six training courses were prepared and transferred to all COVEs, which were trialed and evaluated in various countries. This ensured that the different national conditions were already taken into account during the development and implementation of the activities, thus promoting their application in the different countries.

The six curricula with teaching materials were transferred electronically, made available on Google drive and published on the project website www.3-loe.eu for permanent use by all interested parties.

The implementation reports of the various training courses, an evaluation concept and evaluation reports are published as Result 3.5 "Six training programs for strong learners in initial vocational training" on the project website www.3-loe.eu.

It is crucial that the additional qualifications acquired are completed with a recognized further education qualification (EQF level 5) and thus open up excellent career opportunities for graduates. Of the seven project countries, only Germany has so far offered such recognized further training qualifications. This German examination and recognition system was transferred to all COVEs. On this basis, new continuing education occupational profiles with a focus on the green economy were developed using Austria as an example, which led to corresponding legal regulation at national level in Austria during the project period. A guide to recognized further VET qualifications was developed in order to open up such forward-looking perspectives in other countries as well.¹⁴

¹⁴ See result 4.11 Regulations for new continuing education occupational profiles, www.3-loe.eu

Second center level "Continuing vocational training"

1. Overview Concept, Tools and Curricula

The following concepts, tools and curricula were developed and implemented for the second Center Level (EQF Level 5 and 6).

1. Concepts and instruments for the management of continuing vocational training.
2. KAIN method and Train-the-Trainer program for teachers to conduct further training.
3. A concept "SME-fair digitalization" and two Train the Trainer A Basic Digital Skills and B Advanced Digital Skills.
4. Six short Trainings Energy Saving and Renewable Energy:
 - Training I for SMEs: Energy Efficiency and Renewable Energies
 - Training II for SMEs: Solar Energy – Technology and Applications
 - Training III for SMEs: Energy Efficient Construction and Application of Renewable Energies
 - Training IV for SMEs: Waste and Wastewater Management and Energy Production
 - Training V Energy Modular building owner training
 - Training VI Course of rational media and energy consumption and their production and distribution
5. Six Trainings in the Green Economy with simultaneous implementation of development projects in companies and with the possibility of acquiring a recognized further education qualification (EQF Level 5):
 - A Preparation and management of SMEs for work in the Green Economy
 - B Waste reduction and recycling management
 - C Wastewater treatment and recycling management

- D Water supply and saving
 - E Cradle to Cradle in SMEs
 - F Energy generation from wastewater and waste
6. Training Enterprise and Entrepreneurship in Green Economy
 7. Training Electrician preparation for Technician
 8. Training Energy Service Manager
 9. Trainings Vocational Master Carpenter and Electric
 10. Training Construction Technician
 11. Training Service Technician
 12. Training Work-related English with Focus on Green Economy for companies
 13. Five trainings “Competences and Innovation in the agricultural sector”
 - Competences and innovation in the Agricultural & Food Processing Sector
 - Animal Welfare for a better Future
 - Use of Drones in Agriculture
 - Vertical Farming
 - Techniques of Organic Farming
 14. Short seminars with best practice exchange in foodservice sector
 - Sustainability in Foodservice Industry
 - Waste management in food industry
 - Sustainable hotel practices
 15. Regulations for new continuing education occupational profiles with a focus on the green economy and guide to recognized VET qualifications (EQF Level 5)
 16. Integration program for unemployed

The following are examples from the extensive programme for continuing vocational training developed and implemented in the 3LOE project

- Training Enterprise and Entrepreneurship in Green Economy
- Integration program for unemployed

All results, which can be used free of charge without restriction, are published on the project website www.3-loe.eu.

2 Training Enterprise and Entrepreneurship in Green Economy

2.1 Curriculum¹⁵

2.11 Introduction

The main aim of the course “Enterprise and Entrepreneurship in the Green Economy” is to help the employers and entrepreneurs of SMEs to adapt to the changing world and to gain the benefits of Green Economy by equipping them with all needed skills, knowledge, and competence to meet current and emerging workplace demands.

The participants of the course will develop an understanding of the factors that influence business procedures and activities and their impact on the environment. They will explore ways in which business organizations can aim to improve sustainability while still meeting the needs of their stakeholders.

Upon completion of the course a learner should:

1. Understand the principles of Green Economy and sustainable development.
2. Understand resource and environmental management within a business organization in relation to sustainable development.
3. Know how economics and society contribute to sustainable development.
4. Evaluate the impact of business activities on the environment.

¹⁵ Developed by Profesinio mokymo centras “Žirmūnai”

5. Understand methods in use to implement sustainable development practices within a business organization.

The course is designed as a further education training. Its content corresponds to level four of the European Qualifications Framework (EQF 4).

This further training course is intended for:

- continuous VET learners,
- SMEs staff members (employers and entrepreneurs),
- anyone interested in Green Economy and/or planning to start a business.

The total duration of the course is 136 hours including:

- classroom teaching (32-40 hours)
- self-study and practice in company with tutor guidance (70-90 hours)
- Report/Project work (16-24 hours)

Schedule of the course

- 4-5 days of theoretical training delivered at school.
- 6-8 weeks of practice in company (supported and guided by trainer), including self-work and preparation of the report/project.
- 1.5-2 days for reflection and presentations.

Summary of the Course

Learning Aim	Key content areas	Assessment approach
A Understand the concept of Green Economy and explore the relationship between business activities and their impact on the environment	A1 Green economy: opportunities and challenges A2 Business activities & Environmental issues A3 Business and environments in conflict	A critical review of how organizations can reduce the impact their business activities have on the environment.
B Examine measures available to business	B1 Measures to reduce environmental impact	

organizations to reduce environmental impact and improve sustainability	B2 Improving environmental sustainability B3 Benefits to businesses of improving environmental sustainability	
C Investigate ways to improve environmental impact and sustainability for a business organization	C1 Investigation methods C2 Planning for improved practice	A report investigating how an organization can improve its impact on environmental sustainability

Competences acquired

ENVIRONMENTAL AWARENESS	An understanding of environmental issues that will affect our societies and businesses in the near future.
KNOWLEDGE IN SUSTAINABILITY	An understanding of sustainability and sustainable development and how these concepts can help to tackle the challenges caused by changing climate and other environmental and societal threats.
KNOWLEDGE ON LEGAL FRAMEWORK IN THE FIELD OF SUSTAINABILITY	Essential information on the European and national policies concerning the environmental issues, sustainability and Green Economy.
BASICS IN GREEN ECONOMY	Basic knowledge of Green Economy and its benefits and challenges for an enterprise and business.
ENVIRONMENTAL MOTIVATION	Acting and behaving according to a set of reasons and facts to preserve materials, resources and products for the Green Economy.
INNOVATIVE THINKING	Generating and communicating new ideas how companies and businesses can find the best

	ways to respond to the challenges raised by the shift towards the Green Economy.
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Certification

The certificate of attendance is issued when the completion requirements are met, i.e., the learner has attended at least 70% of the contact hours (classroom teaching) and delivered the final presentation/report.

2.12 Course Specifications

Content and Scope of the Curriculum

Learning Aim	A Understand the concept of Green Economy and explore the relationship between business activities and their impact on the environment
Topic	A1 Green economy: opportunities and challenges
Time guideline	16
Content	<ul style="list-style-type: none"> • Concept of Green Economy: https://www.eea.europa.eu/publications/europes-environment-aoa/chapter3.xhtml • Green growth and sustainable development: http://www.oecd.org/greengrowth/ • Green Economy principles: https://www.greeneconomycoalition.org/assets/reports/GEC-Reports/Principles-priorities-pathways-inclusive-green-economies-web.pdf • Sustainable development goals: https://www.un.org/sustainable-development/ • Green SMEs in the European Union: https://kgk.uni-obuda.hu/sites/default/files/34_Szabo%20Antal.pdf

	<ul style="list-style-type: none"> • Inclusive solutions for the green transition: SMEs: Key Drivers of Green and Inclusive Growth: https://www.oecd.org/green-growth/GGSD_2018_SME%20Issue%20Paper_WEB.pdf • Green growth and circular economy https://ec.europa.eu/environment/green-growth/index_en.htm • Building capacity and supporting SMEs in their transition to sustainability https://ec.europa.eu/growth/smes/sme-strategy_en • Unleashing the full potential of European SMEs https://ec.europa.eu/commission/presscorner/detail/en/fs_20_426
Topic	A2 Business activities & Environmental issues
Time guideline	16
Content	<ul style="list-style-type: none"> • Type and size of business, including: <ul style="list-style-type: none"> ○ ownership, e.g. public, private ○ sector, e.g. primary, secondary, tertiary, quaternary ○ location, e.g. local, national, global, urban, rural, off-shore. • Business activities that impact on the environment, including: <ul style="list-style-type: none"> ○ raising revenue and profits, cutting costs ○ encouraging sales growth ○ complying with operational legislation and regulations. • Stakeholders in business activities, including: owners, shareholders, employees, customers, associated businesses. • Business activities affecting the environment, including: <ul style="list-style-type: none"> ○ forest clearing, habitat removal ○ damage to land, e.g. fracking ○ urbanisation, e.g. removal of oxygen producing plants, water stress <p>intensive farming, e.g. large numbers of methane-producing livestock, chemical pesticides</p> <ul style="list-style-type: none"> ○ industrial production, e.g. air and water pollution, resource depletion, ○ waste by-products, noise pollution ○ energy consumption and emissions from fuel use, e.g. gas, electricity, oil ○ increased emissions through transportation, e.g. road, rail, ship and air

	<ul style="list-style-type: none"> ○ waste including residues, e.g. surplus liquids, chemicals, packaging, unused ○ power, water, e.g. input and output leakage, release of micro-pollutants ● Impact on environment, including negative effects: <ul style="list-style-type: none"> ○ climate change from increase in greenhouse gases ○ pollution, e.g. chemical run-off or disposal into air and water systems ○ resource depletion. ● Consequences of environmental impact, including extreme weather and temperatures, damage to ecosystems, species extinction, food chain threats, water shortages, disease in human and animal populations. <ul style="list-style-type: none"> ● Stakeholders involved with the environment, including: <ul style="list-style-type: none"> ○ international and national government organizations and agencies, e.g. United Nations Environment Programme, European Environment Agency <p>https://www.unep.org/</p> <ul style="list-style-type: none"> ○ environmental organizations and pressure groups, e.g. Friends of the Earth, Greenpeace <p>https://www.bbc.co.uk/bitesize/guides/zh2ff4j/revision/3 https://www.youtube.com/watch?v=eXdqZV-BffU</p> <ul style="list-style-type: none"> ○ local environmental groups.
Topic	A3 Business and environments in conflict
Time guideline	16
Content	<ul style="list-style-type: none"> ● Considerations for business organizations, including: <ul style="list-style-type: none"> ○ compliance with conservation initiatives, e.g. storage (temperature control), waste ○ characteristics of customers, e.g. need for cheap products, environmental awareness

	<ul style="list-style-type: none"> ○ costs and benefits of assessing, planning and implementing changes ○ use of alternatives, e.g. materials and products, manufacturing processes, <p>transportation</p> <ul style="list-style-type: none"> ○ impact of local communities, e.g. pressure groups to reduce noise, emissions, waste ○ perceived economic gain against negative environmental impacts, e.g. cost of operating ethically and sustainably, i.e. with minimum negative environmental impact.
Learning Aim	B Examine measures available to business organizations to reduce environmental impact and improve sustainability
Topic	B1 Measures to reduce environmental impact
Time guideline	16
Content	<ul style="list-style-type: none"> ● Measures including: <ul style="list-style-type: none"> ○ compliance with legislation ○ control of pollutants, e.g. air quality by controlling emissions, excessive incineration ○ land quality, e.g. reducing landfill waste, management of damaging materials, e.g. asbestos, infectious clinical waste ○ water quality, e.g. reducing polluting of rivers, lakes, seas, regulating commercial exploitation of shellfish as a food.
Topic	B2 Improving environmental sustainability
Time guideline	24
Content	<ul style="list-style-type: none"> ● Incorporate sustainability into business aims and objectives, including operational processes. ● Create and implement sustainable practices policies, e.g. training, external consultation, working with suppliers and environmental agencies.

	<ul style="list-style-type: none"> • Implementing long-term and short-term sustainability projects, including: <ul style="list-style-type: none"> ○ energy conservation, e.g. installing occupancy sensors for store-rooms and offices, ○ increased use of renewable energy, recycling hot water and air, ○ increasing the use of aerodynamically-designed carriers, backhauling, ○ local sourcing to avoid unsustainable shipping, road and air freight ○ water conservation, e.g. monitoring usage using meters, leakage detection equipment, installation of automatic shut off taps <ul style="list-style-type: none"> ○ effective waste management, e.g. minimizing waste produced, re-use for fuel, controlling packaging ○ building infrastructure changes, e.g. solar panels, glazed roofs, insulation ○ sourcing alternative raw materials, replacing plastics with biodegradable materials <ul style="list-style-type: none"> ○ positive action, e.g. carbon off-set planting ○ changing customer behaviour, e.g. supermarkets charging for plastic carrier bags <ul style="list-style-type: none"> ○ changing employee behaviour, e.g. awareness training, implementing business recycling strategy – reduce, reuse, recycle. <ul style="list-style-type: none"> • Methods of assessing the impact of sustainability measures, including comparison of carbon footprints of different equipment and products, consumer and supplier loyalty.
Topic	B3 Benefits to businesses of improving environmental sustainability
Time guideline	16
Content	Measures to produce business case argument for sustainable business practice. <ul style="list-style-type: none"> • Benefits arising from:

	<ul style="list-style-type: none"> ○ 'green' marketing – improved corporate or business image, e.g. green certification, improved relationships with environmentally-conscious consumers and suppliers ○ legal compliance ○ distinction from competitors ○ access to 'green' funding and tax breaks ○ increased business opportunities, e.g. working with organizations that use only sustainable businesses ○ employee morale.
Learning Aim	C Investigate ways to improve environmental impact and sustainability for a business organisation
Topic	C1 Investigation methods
Time guideline	8
Content	<ul style="list-style-type: none"> ● Planning research: aims, planned outcomes, task dates, review dates, monitoring, data collection tools. ● Undertaking research: primary, secondary, creating and using research resources such as surveys, observation sheets and interview questions, meeting relevant legislation, data collection. ● Presentation of current situation, including: <ul style="list-style-type: none"> ○ summary of methodology and research findings ○ analysis of impact of business practice and operations on the environment.
Topic	C2 Planning for improved practice
Time guideline	24
Content	<ul style="list-style-type: none"> ● Examining options to improve business practice, including consultation with all stakeholders. ● Recommendations for improving sustainable environment practice using business procedures and/or customer choices, including:

	<ul style="list-style-type: none"> ○ proposals based on conclusions from research ○ other considered proposals ○ rationale for proposals, including reasons for selected proposal, benefits to environment, business case for recommendations. ○ Planned stages for implementing improvements, including prioritization activities, long-term and short-term timescales, required resources.
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Training providers should ensure that content, which, for example, references regulation, legislation, policies and regulatory/standards, is kept up to date.

Guidelines for Course delivery

During the course learners will study the organizational structure and functions of a range of companies and will consider how their business activities affect the environment. The course introduces learners to a range of measures that can be put in place to improve business sustainability and be in line with Green Economy model. It looks at potential conflicts between business activities, the desire for profit and ensuring environmental sustainability. Learners will consider the purposes of different organizations, the influence of stakeholders and how businesses organize them-selves through strategic planning and organizational structures.

Learners will also need to consider the environmental impact of businesses not adhering to sustainability legislation. They will learn about stakeholders involved with the environment such as the United Nations Environmental Program, Green-peace, the European Environment Agency, etc. Learners will also consider some of the benefits to businesses of improving their environmental footprint.

Trainers delivering this course have opportunities to use a wide range of delivery methods, including lectures, discussions, seminar presentations, site visits, internet and/or library-based research and personal and/or industrial experience. Visiting expert speakers could add to the relevance of the subject for learners. For example, they

could talk about their organization’s perspective on sustainable development, the situations they face and the methods they use.

The following guidelines provide the trainer with a starting point for one way of delivering the course, based on the recommended assessment approach and assessment criteria:

Learning Aim A: Understand the concept of Green Economy and explore the relationship between business activities and their impact on the environment

- Trainer introduces the aims of the course, giving an overview of the content of the learning aims, and explaining the learning and assessment methods. This will set a basis for the types of activities in which learners will be engaged.
- Trainer leads a class discussion to agree a working definition of ‘sustainability’ in a business context. Learners research different definitions and the class agrees a definition that will be referenced throughout the delivery of the course.
- Trainer asks learners to share stories about their knowledge and experiences of working within different businesses, and to consider how environmentally sustainable their organization is. Trainer could then provide initial input for learners on the different types of business ownership and how these relate to the operation of a business.
- Learners need to develop an understanding of business activities that affect the environment (for example, the need to raise revenue and profits, to stimulate sales growth and to comply with environmental legislation). Trainer could lead a group discussion looking at how business needs and environmental needs sometimes come into conflict. Learners could work in small groups to carry out secondary research on a range of businesses by looking at their websites, many of which have ‘About us’ pages that contain useful information regarding business activities, ownership, size and, increasingly, mission statements on how the company is aiming to operate in a more sustainable fashion. This could be followed by primary research, consisting of independent or accompanied visits to

different businesses, to learn more about how the organizations are becoming more environmentally sustainable.

- Trainer could introduce the topic of environmental stakeholders by inviting a guest speaker from a local environmental group to come and speak to the learners about the issues facing the environment as a result of business activity. They could also discuss any work they are doing with local businesses to encourage sustainability. Following the talk, learners could go on to work in small groups to research national and international environmental stakeholders. Each group should be allocated a different stakeholder (e.g. the United Nations Environmental Programme, the EU Environmental Agency, Greenpeace); learners make a presentation about their chosen stakeholder to present to the class.

Learning Aim B: Examine measures available to business organizations to reduce environmental impact and improve sustainability

- This learning aim looks at the measures available to businesses to reduce the environmental impact of their business practices and operations. It also considers the business case for sustainability by looking at how increased efficiency and environmental sustainability can be beneficial to a business organization.
- Trainer should encourage learners to work in small groups to create a group presentation on the benefits and impact of recycling and energy conservation.
- Trainer could use case studies of businesses that have successfully reduced their environmental impact and improved sustainability. A guest speaker from one such company could be invited to come and speak to the learners about how they improved their business practices to become more environmentally sustainable. Learners should consider what impact this has had on the stakeholders of the business, such as the owners, employees, customers and suppliers. Trainer could initiate and lead a group discussion to get learners to consider their opinions.
- Learners could be asked to make recommendations in respect of the procurement of office equipment or office supplies that would highlight

the cost/benefit issues relating to environmental sustainability in a practical business context.

- Trainer should encourage learners to conduct individual research into the potential benefits to businesses of improving environmental sustainability. For example, reducing the amount of energy used reduces costs and so should increase profits.
- Video materials on long- and short-term sustainability projects could be demonstrated to learners, followed by a class discussion on the topic.

Learning aim C: Investigate ways to improve environmental impact and sustainability for a business organization

- For this learning aim, each learner needs to choose a company to research. It can be either a company in which the learner is currently employed, the company in which the practical part of the training is delivered, or any other organization chosen by the learner. Learners produce a report on their chosen business, exploring the ways it can improve its environmental impact and how it can conduct business in a more sustainable manner.
- Trainer should introduce the learning aim by leading a group discussion on sustainable development strategies in different economic sectors/industries.
- Guided by the trainer, the learners need to create a timetable for how and when they will produce their reports. They must plan their research, carry it out and create a clear picture of the current situation in which their business is operating. Learners must then go on to make suggestions about how and why their chosen company can change in order to become more environmentally sustainable.
- Trainer can direct learners towards appropriate video materials looking at what can be done to improve environmental impact and sustainability for a business organization, in order to give them some ideas for their projects.
- Once learners have produced a report on their chosen business, they present their findings to the group. This gives all learners a wide range of examples of different businesses and how they can become more sustainable. It would be useful if some learners researched local businesses, some looked at organizations in other countries and/or multinational

companies. Each presentation could be followed with a brief group discussion looking at how companies in different sectors and locations are addressing climate change and demands of the Green Economy.

Assessment approach

The course is assessed through two assignments. The first covers learning aims A and B. The second covers learning aim C. The learners should be given the opportunity of engaging in assignments that develop and support their knowledge of business and environmental sustainability, as well as employing their general skills.

Learners should be involved in research activities using different source materials that require them to present their findings in a variety of formats such as reflections, reports, and presentations. In their final report, learners should demonstrate evidence of data analysis and evaluation. This data analysis should be used to inform and justify any conclusions and recommendations that are included in the report.

It is expected that learners will individually select and research their choice of business organizations. The business organizations selected by the learner for learning aims A, B and C should be contrasting in terms of their features; for example, ownership and liability, purpose, sector, scope and/or size.

Assessment model

Learning Aim	Recommended assessment approach	Recommended assessment criteria
A Understand the concept of Green economy and explore the relationship between business activities and their impact on the environment	A critical review/reflection of how contrasting organizations can reduce the impact their	Learners produce a comprehensive review that explores in detail how elements of business procedures and operations used in different organizations affect the environment.

<p>B Examine measures available to business organizations to reduce environmental impact and improve sustainability</p>	<p>business activities have on the environment.</p>	<p>They reflect on negative processes and examples of good practice as appropriate. They review environmental issues, their contributory factors and consider relevant long-term and short-term sustainability projects that will advantage both the environment and the business organizations.</p>
<p>C Investigate ways to improve environmental impact and sustainability for a business organization</p>	<p>A report investigating how an organization can improve its impact on environmental sustainability.</p>	<p>Learners demonstrate a sound understanding of the operations and processes used within one local business and their effect on the environment. They consider other influences such as stakeholders and the cost effectiveness of altering practices following research. Learners may consider issues such as existing waste management systems and lighting used in the work premises.</p> <p>Learners provide specific and detailed recommendations for improvements with logical, supported reasoning. For example, in addressing the need for improved environmental sustainability, learners may recommend micro-changes in</p>

		operations in order to take the organization in the right direction without negatively impacting other aspects such as costs or manageability.
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2.13 Study form and learning methods

The classroom teaching part of the course can be organized as a face-to-face activity or can be delivered as online training. A range of learning methods can be applied, such as:

- discussions, e.g. class and small group discussions on business and environmental sustainability,
- individual or group presentations, e.g. covering stakeholders and their importance in developing and maintaining a sustainable business,
- case studies illustrating sustainable enterprise for both well-known and less-known businesses,
- videos, e.g. TED talks on business and environmental sustainability,
- company visits.

2.14 Employer engagement

The focus of this course is on developing an understanding of the importance of sustainable development for a business organization. Training providers are encouraged to create and develop links with professionals in the local area. This could be through guest lectures or site visits. Linking to industry will ensure that learners

appreciate the importance of sustainable development and its value across different industries and types of organizations.

Local employers and entrepreneurs can be involved in the training process by being invited as:

- guest speakers.
- members of the audience for learner presentations.
- contributors to case study material.
- providers of work experience for learners, and of business materials as exemplars.
- mentors for learners.

2.2 Implementations

The training "Enterprise and Entrepreneurship in the Green Economy" was tested and implemented by the COVEs Lithuania and Italy. The four tests carried out led to the following experiences and summarized conclusions.¹⁶

Test by Verslo ir svetingumo profesinės karjeros centras (VESK)

The training course “Enterprise and Entrepreneurship in the Green Economy” received very good feedback from the students who were the first to test it. VESK also got numerous requests from companies and individual employees about the possibility to enroll in the training. Therefore, the decision was taken to make it a regular offer on the VESK training courses list.

Starting December 2023 Lithuania launches a new digital education platform - the Individual Learning Accounts system, aimed for adults to learn and improve their qualifications. It will allow learners, as well as companies involved in the training and

¹⁶ The detailed implementation and evaluation reports can be found in Result 4.5 Training Enterprise and Entrepreneurship in Green Economy, www.3-loe.eu

development of their employees, to have their own individual accounts, access re-mote career guidance services and funding for learning targeted at national priorities. The system will be open to all Lithuanian citizens, regardless of their job position, qualifications, age or professional experience. Only programs submitted by accredited providers that meet the quality criteria will be published in the system. The delivery of the training will be fully funded by the state. It is expected that more than 100 000 people will participate in skills development programs by 2030.

VESK is going to actively participate in the new training provision scheme for adults as it has the status of an accredited institution. The course “Enterprise and Entrepreneurship in the Green Economy” will be included in the official training programs’ list.

Test by Panevezys Chamber of Commerce Industry and Crafts

The participants agreed that general conditions, the overall content of the training course was good or very good. They gained new valuable insights and knowledge during the training. Most of the participants said they would be able to use the gained knowledge in their professional life.

The participants were happy they had a possibility to discuss, exchange ideas and experiences with people from other companies.

The curriculum “Enterprise and Entrepreneurship in Green Economy” is very well prepared, clearly divided into parts with different learning aims and their detailed description. It also contains very useful guidelines for delivery of the training. If needed, the training can be modified taking into account needs of the participants, their previous experience and knowledge as well as the economic sector they are representing.

The training will be used by Panevezys Chamber of Commerce Industry and Crafts in the future for employees and managers of SMEs from various industrial sectors.

Test by Trasferimento Tecnologico e Innovazione Scarl

Aware that the advantages of developing a green business idea are truly remarkable:

- environmental awareness is growing more and more among consumers, so you have the certainty of targeting a market with at least a good chance of growth.
- by starting a sustainable business in parallel, one is certain to make one's own contribution to the well-being and health of the environment, aware of the role one's business can play in achieving the goals of Agenda 2030.

As a result, the participants of training in particular stood out for the sustainability orientation of their business ideas. A few examples:

- Cristina fashion designer - recalling the tragedy of the Rana Plaza collapse - wanted to develop a sustainable fashion line.
- Caterina, thanks to her experience in the tourist accommodation sector, planned to build an eco-sustainable glamping.
- Luca, on the basis of his experience as a traveler and knowledge of airports, was developing a share economy service for sharing cars parked at the airport.
- Giovanni, a culture and theatre enthusiast, intended to enhance the Adria Theatre, in which he was involved with his cultural centre, in an eco-sustainable key.
- Strengthened by his academic studies in the sector, Gustavo was aiming at an innovative startup for the development of sustainable packaging.

Test by Sistemi Formativi Confindustria

At the conclusion of the training, participants have been empowered to activate the organization on sustainability issues by being able to rely on these outputs:

- Knowledge of the legal framework supporting enterprise in the Green Economy transition.
- ability to work with measurement systems for pollutants released in the industrial process to optimize corporate sustainability performance.
- Ability to use CT.
- Ability to carry out monitoring and assessment tests for green production.

- Create a corporate culture of economic, environmental and cost-effectiveness of pollution reduction systems (pollutant emission tax reduction, green marketing, etc.).

2.3 Evaluation Concept¹⁷

2.31 Introduction

The objective of the evaluation is to determine whether the goals of the program will be achieved in the implementations evaluated, and how the program has impact on student's career and opportunities.

The type of the evaluation follows standard course evaluation methods, i.e. formative, process and outcome evaluation, the latter only partial: The formative evaluation will provide feedback to the curriculum designers, developers and implementers to ensure that designed and implemented courses really meet the needs of the intended audience, i.e. assure or improve the quality of program. The planned duration of the course varies depending to the educational level and purposes. Each lesson lasts 45 minutes.

Methods used in lessons will be lectures, teaching talks, working in small groups, case studies and examples from real world. Material used during the teaching consists of e.g. information material (basics & backgrounds, thematic introductions etc.), presentations, questionnaires, question guides, checklists, analysis results, good practice examples and so on. Course should contain at least following issues: Basics/overview of essential tasks and contents of business-oriented and productivity-enhancing measures in circular economy and workplace innovation (in each of the courses).

¹⁷ Prepared by Rigas Stradina Universitate, Latvia

2.32 Main terms of the evaluation

Evaluation will answer to the following questions:

- a. Were the goals and objectives suitable for the audience?
- b. Were the training methods and course materials appropriate for the audience?
- c. Should the program or some part of it be developed further and how?
- d. What additional information would be beneficial for the development of the program, facilities, and timing.

The process of the evaluation will provide information about the training and lectures:

- Process of the evaluation will be focused on procedures and actions used to produce results.
- Evaluation process is supposed to take place during the training delivery and at the end of the training.
- The co-organizer (Responsible for the course) will monitor the training and describe the training process as a whole and record the findings into the written report.
- The outcome of the evaluation tries to find out how the knowledge, attitudes, and behaviours of the audience developed.
- It takes a long time to find out the outcomes of the education and training, so in this stage only the main topics will be assessed.

The evaluation process will be as follows:

- Questionnaires will be suggested by RSU and discussed with organizers of the training before the training starts.
- The questionnaires in a digital form will be applied.
- The co-organizer (responsible for the course) will suggest fulfilling the questionnaires available to the participants to be filled in before leaving the course and on-line.

- The purposes of the questionnaire and how the data will be used should be explained clearly to the participants. This will help to improve the response rate and encourage them to make comments that can be useful to improve future programs.
- The evaluation approach will be based on a combination of qualitative and quantitative methods.
- The Microsoft Excel package will be used to transcribe the feedback and interviews.
- Open questions will be categorized, and qualitative analysis of the groups will be done.

2.33 The evaluation procedure

Semi-structured questionnaires will be suggested to the participants (ANNEX A). Different topics [topic no. 1, topic no.2 etc.] should be proposed by the organizers of the training according to the program for the training or parts of the course.

It is recommended:

- 1) Co-organizer (Responsible for the course) fills in all required information:
 - the Name of the school / institution.
 - the Title of the evaluated course and the number of the workshop (1st / 2nd) in the beginning of the questionnaire to make sure that the ‘identification data needed in the evaluation is correct.

Semi-structured questionnaires will be created for the leaders of the training/course-trainers / lecturers / teachers) (ANNEX B).

It is recommended:

- 1) Co-organizer (Responsible for the course) fills in all required information:

- the Name of the school / institution.
 - the Title of the evaluated course and the number of the workshop (1st / 2nd)
- in the beginning of the questionnaire before printing it to make sure that the identification data needed in the evaluation is correct.

2) Time for the survey (approx. 10 minutes) will be allocated in the end of each workshop.

3) In the beginning of the course the co-organizer (Responsible for the course) will inform participants about the evaluation and its importance for further development actions.

4) The co-organizer (Responsible for the course) will make the link to the questionnaires available to the participants to be filled in before leaving the workshop. The purposes of the questionnaire and how the data will be used should be explained clearly to the participants. This will help to improve the response rate and encourage them to make comments that can be useful to improve future programs.

Note: Survey for participants will be conducted twice, in the end of both workshops!

5) The participants complete the questionnaires and return them to the co-organizer.

6) The co-organizer distributes the lecturer's questionnaire to each lecturer to be compiled immediately after his / her part of the course has been finished.

Note: If the lecturer teaches in both workshops, he / she completes the questionnaire twice!

7) In the end of the learning on the job -phase, representant of each enterprise involved in the training will be interviewed by the co-organizer. Guidelines for the interview will be found in appendix C. Interviews can be conducted face to face or via Skype, Microsoft Teams or e-mail, some examples to be given.

8) The co-organizer collects the questionnaires and answers of interviews and deliver them to the evaluator. If there are free speech answers in some other language than English, it is recommendable that the co-organizer translates them to English.

9) The evaluator compiles all feedback and summarizes written analysis on the evaluations.

The evaluation approach will be based on a combination of qualitative and quantitative methods. The Microsoft Excel package will be used to transcribe the feedback and inter-views. Open questions will be categorized, and qualitative analysis of the groups will be done.

2.34 Content of the final evaluation report

The final evaluation report will discuss the following issues:

Did the curriculum reach the targets?

How well was the knowledge creation and sharing realized?

Did the participants assimilate knowledge and tools?

Was the venue and equipment appropriate for the training course?

What kind of further development will be needed, if any?

2.35 Annex

ANNEX A

Questionnaire for participants of the

.....course

Please mark with a cross where applicable

Gender	Female	Male
Age	<50	>50
Workplace	Education	Business

Please mark the scale that applies to your opinion on the following aspects of the training that you participated.

1. Please indicate in which training course you participated

-
-
-
-

2. What is your background?

- I am a company owner/manager
- I am a company employee
- I am a student/trainee
- Other (please indicate)

3. Please rate the general conditions of the training course

- The facilities (location, room, online tool etc.) for the training course were suitable

Scale:

1=Strongly disagree

2=Disagree,

3=Neither disagree nor agree,

4=Agree,

5=Strongly agree

o The time frame and schedule for the training course were suitable

Scale:

1= Strongly disagree,

2=Disagree,

3=Neither disagree nor agree,

4=Agree,

5=Strongly agree

o Comments

4. Please rate the overall content of the training course

Scale:

1= Strongly disagree,

2=Disagree,

3=Neither disagree nor agree,

4=Agree,

5=Strongly agree

In common

The topics and issues covered were relevant and responded to the goals of training

1 2 3 4 5

The lecturers explained topics of the lessons, additional questions, experiences, and topical issues arisen during the course well

1 2 3 4 5

There was enough time scheduled for each topic

1 2 3 4 5

I gained valuable knowledge from lessons and examples presented by lecturers

1 2 3 4 5

I believe that can apply knowledge gained from lessons and use it in my future career

1 2 3 4 5

I can use new skills trained and knowledge gained in my future career, e.g. when consulting my clients 1 2 3 4 5

Comments concerning the common issues

5. What was most interesting for you during the training course?
6. What could have been done better? (E.g. was some topic missing or unnecessary)
7. Would you recommend the course to someone you know? If not, why not?
8. Was anything missing that you might need in your (future) profession life?
9. Was the proportion of topics and time frame of the training course content suitable or should some parts be increased/decreased?
10. Is there any other feedback on the training course you would like to share

Thank you for your answers! Please press “done” to submit the survey!

ANNEX B

Questionnaire for lecturers of

the course

Dear Lecturer,

Thank you for taking your time to evaluate a training course, that was developed and tested as part of the Erasmus+ project "3LOE". This survey is anonymous and will take 5-10 minutes.

1. Please indicate which training course you were lecturing
 - o title of the course
 - o title of the course
 - o title of the course
 - o title of the course
 - o Other, please indicate

2. Please indicate how many years of experience in teaching you have

- o Less than 2 years
 - o Between 2 and 5 years
 - o More than 5 years
3. Please rate the general conditions of the teaching during the training course
Scale: 1= Poor, 2=Satisfactory, 3= Good 4=Very good, 5=Excellent
- o The facilities (location, room, online tool etc.) for the training course were...
 - o The time frame and schedule for the training course were...
 - o The curriculum provided was...
 - o The background knowledge of the training participants was...
 - o The motivation of the training participants was...

Comments

4. Please rate the overall content of the training course

Scale: 1= Poor, 2=Satisfactory, 3= Good 4=Very good, 5=Excellent

- o The overall content of the training course was...
- o The way the content responded to the needs and goals of the training participants was...
- o The relevance of the training course content for the overall qualification was.

Comments:

- 1 What could be done better? (e.g. was some topic missing or unnecessary)
- 2 Is there any other feedback on the training course you would like to share?

Thank you for your answers! Please press "done" to submit the survey.

ANNEX C

Questionnaire for interviews of enterprises

..... course

The interviewer will ask the following questions from each enterprise's representative.

1. Schedule: Was the schedule of theory and practice in line with the company's needs? Are you satisfied with the schedule and order of topics?
2. Content: Did the training contain topics and issues needed in your business? Was something missing? If is, please write what in your opinion was missing?
3. Implemented project: Did the project, implemented during the learning at the job -phase, achieve the goals set to it? If not, what remained incomplete?
4. What could have been done differently? And what should not be changed?

Thank you for your answers!

3 Integration Program for the unemployed

3.1 Background

The 3LOE project developed and implemented more than fifty different professional qualification measures. Of these, the following trainings with a strong reference to the Green Economy are particularly suitable for a qualification and integration of unemployed people.

Six training programs

A Technologies water supply (60 – 80 lessons)

B Technologies water saving (80 – 100 lessons)

C Greywater and rainwater utilisation technologies (80 – 100 lessons)

D Technologies wastewater treatment (100 – 120 lessons)

E Fundamentals of the circular economy (80 – 100 lessons)

F Systemic solution-oriented consulting with (60 – 80 lessons)

Learning results are based at EQF Level 4 or with extensive professional experience Level 5. The trainings are aimed at people with a professional education and/or many years of professional activity in relevant professions, for example:

- specialists in wastewater technology
- specialists in recycling and waste management
- specialists in water supply technology
- plant mechanics for sanitary, heating and air conditioning technology
- gas and water fitters
- plumbers

Participants can complete individual or all six main modules. A qualified certificate of attendance is issued for each completed main module. Participants who complete all six main modules and pass the final examination receive the recognised further training qualification "Environmental Consultant in XY" (profession learned in initial vocational training).

Six further vocational training programs

A Preparation and management of SMEs for work in the Green Economy (45 h lessons & self-learning and project work)

B Waste reduction and recycling management (30 - 45 h lessons & self-learning and project work)

C Wastewater, treatment and recycling management (30 - 45 h lessons & self-learning and project work)

D Water supply and saving (30 - 45 h lessons & self-learning and project work)

E Cradle to Cradle in SMEs. C2C includes a circular economy with a 100% recycling rate of all produced goods (30 - 45 h lessons & self-learning and project work).

F Energy generation from wastewater and waste (45 h lessons & self-learning and project work)

The trainings are aimed at "SME-owners and managers" and "SME professionals" with a professional education and/or many years of professional activity. The imparted learning content is cross-occupational, experts and interested companies from all lines of trades will be addressed. The learning results are rated at EQF level 5.

Upon completion of the respective training course and the final examination, the participants acquire the recognised professional further training qualification of

- A Specialist for management of SMEs in Green Economy
- B Specialist for Waste Management
- C Specialist for Wastewater Management
- D Specialist for Water Management
- E Specialist for Cradle to Cradle in SMEs
- F Specialist for Energy generation from wastewater and waste

Four main study modules

Each module covering 150 to a maximum of 175 teaching lessons:

- A Management & water, wastewater technologies
- B Waste management & technologies
- C Management & technologies of Circular Economy
- D Management concepts for sustainable economic activity

The four modules will be offered and implemented as part of existing bachelor`s pro-grams either as extra selective modules or as obligatory modules. They are also excellently suited for the implementation of demanding further professional training and advancement courses.

3.2 Objectives

Objective A: Qualification and Integration of the unemployed

These training measures are to be used for the qualification and placement of the unemployed into jobs, especially the training programs and the further vocational training programs. In the majority of countries participating in the project, there is a high unemployment, at the same time companies complain about a growing shortage of qualified personnel. Being involved in an effective integration program the unemployed can widely be integrated into the labour market and companies gain the necessary professionals.

Objective B: Meeting the demand for skilled workers to achieve the EU energy, climate and environmental protection targets.

In order to achieve the EU targets¹⁸, the number of qualified professionals who are capable to carry out measures must be very significantly increased. For example, according to the comprehensive build-up skills country reports¹⁹ in individual EU countries increase in the number of qualified professionals is required by up to 50%. With the qualification and integration of the unemployed important contributions can be made to meet the demand for skilled labour and to achieve the EU targets.

To achieve these objectives, an integration program for the unemployed is developed including educational measures, so that the unemployed are involved in the training programs. The aim is to return at least 75% of the unemployed in employment after a successful completion of the integration program. To achieve this goal, individual coaching of the unemployed during all phases of qualification and integration is of crucial importance.

The program description is quite specific, nevertheless it is meant for the implementation in all project partner countries. Taking into consideration that situations in countries are different it is suggested that for implementations country specific circumstances should be considered and the programme adapted accordingly. E.g., funding opportunities, cooperation with Employment Agency, etc.

The integration program should be publicized in consultations, reports in daily newspapers, and through various channels, including, in particular, the websites of the centers of excellence and the national and regional employment agencies, since the unemployed may not know about these opportunities.

3.3 The Coaching Process

The words “coaching” and “consultation” are often used interchangeably. However, strictly taken, these concepts imply very different notions. Coaching focuses on a goal- and results-oriented process which helps clients to find their own solutions. It is therefore understood as a method that enables those facing special (often professional) challenges or problems to manage them (largely) independently. Due to this self-understanding, it becomes clear that a coach is not an advisor or consultant answering the

¹⁸ Climate Action: http://ec.europa.eu/clima/policies/strategies/index_en.htm (August 2016)

¹⁹ <http://www.buildupskills.eu/national-projects> (August 2016)

questions of the person seeking advice, but a coach enables the client, through certain questions and techniques, to ask the “right” questions and find the answers by him or herself.

The task of consultants or advisers, on the other hand, is to answer specific questions of the person seeking advice as an expert on the topic. Hence, the solution or answer to the question of the advice seeker is given by another person, implying that the person seeking advice does not need to further investigate the issue.

Nevertheless, there are some common characteristics of the two processes:

- **Profound expertise and professionalism:** usually acquired through university studies, training and with extensive professional experience.
- **Reflexivity:** Here understood as a systematic and well-founded thinking about one’s own actions and activities as well as the structures and processes with which one pursues a goal.
- **Value orientation and positive image of man** understood here as an appreciation and recognition of the diversity of personalities, a personality’s dynamics and changeability.
- **Working in and with networks:** as a necessary condition for pursuing goals and increasing professionalism.

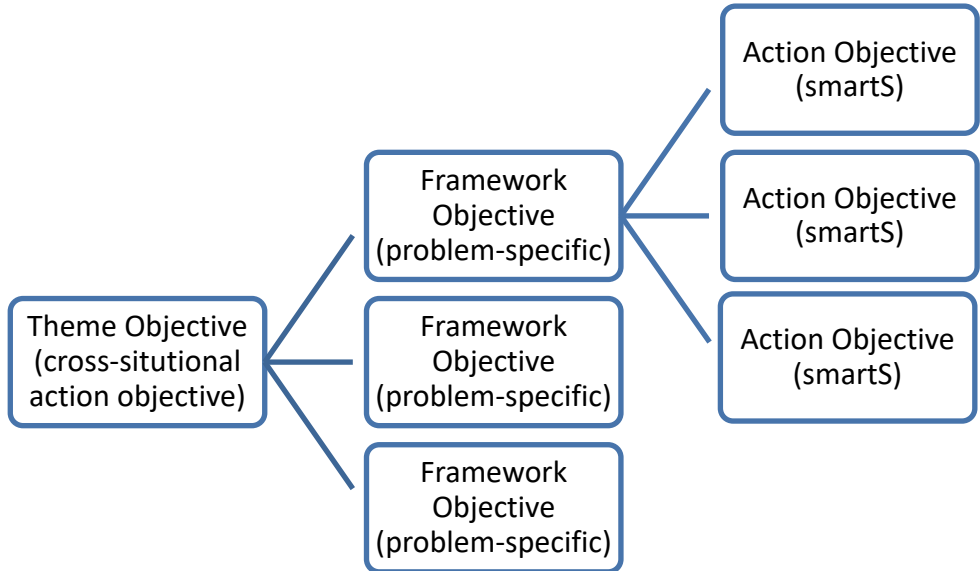
As part of the 3LOE project, due to the complexity of challenges and issues faced by unemployed, it can be assumed that there will be no clearly defined border between coaching or counselling support from the coaches/advisors. Both can be appropriate, important and necessary depending on the case. Therefore, consulting or coaching is seen in this context as an interactive process in which both, the strong support of the consultant or coach and active participation of the person seeking advice, is of immense importance for solving the problem at hand.²⁰ Within the 3LOE project, this process should be based on the “Case Management Model” increasingly used in the realm of social work.²¹

Case management is an extremely complex and intensive process carried out together with the advice seeker. It is always on a voluntary basis and requires the consent of the person seeking advice. Cases in which a case management structure is

²⁰Cf. Nußbeck, Susanne. Einführung in die Beratungspsychologie (2. Ed.). München: Reinhardt.

²¹ Cf. Müller, Matthias (2016). Case Management in der Migrationsberatung für erwachsene Zuwanderer (MBE) – Eine Arbeitshilfe (1. Ed.). Berlin: Deutscher paritätischer Wohlfahrtsverband Gesamtverband e.V.

worthwhile are particularly complex problem situations for whose solution a large number of helpers from different areas is required. This also means that multiple coaching sessions will be necessary. Furthermore, setting up case management structures is a time-consuming and labour-intensive process. Therefore, it cannot be expected that the advisors/coaches of the project participants will fully implement this concept. Nevertheless, it should serve as a suggestion for structuring the coaching process.



The case management process is divided into two levels: the case level and the (care) systems level. At case level, the case manager focuses on the person seeking advice. First, the case is assessed. In this phase information is collected comprehensively, systematically and without judgement or evaluation. The next step of this phase is a conscious decision which problem should be worked on made jointly by the case manager and the advice seeker. Once this decision has been made, hypotheses are formulated to come up with different explanations for the selected problem. These hypotheses facilitate the formulation of action goals in the next phase. In the case of this project, the selected problem should be the desired self-employment as entrepreneur. Furthermore, it is important to record strengths, competences and resources of the participant to be able to draw on them when solving the selected problem during the coaching process.

In the next phase (planning) an individual support plan is drawn up. Here, a distinction is made between theme, framework and action objectives. It is crucial to adhere to the hierarchy moving from the abstract theme objectives to the concrete action

objectives. Theme objectives take interests and hopes into account, they are personal, easy to understand and formulated in a positive way – they reflect the participant's visions. Framework objectives relate specifically to the guiding problem (i.e. self-employment as entrepreneur) and its explanation hypotheses. They are generally in line with the theme objectives. Lastly, action objectives are formulated to concretely implement the framework objectives. They are incremental and must be manageable for the participant. The so-called smartS criteria (specific, measurable, acceptable / attractive, realistic, timed and strength-oriented)²² should be taken into account when formulating the action objectives.

In the case level's next phase, it is a matter of implementing the defined objectives. In contrast to regular counselling, in case management this phase is more than just a recommendation and placement into assistance services. Here, close accompaniment and, if necessary, support is foreseen. The process is oriented towards the wishes, strengths and resources of the participant to initiate a helping process that is as autonomous as possible (keyword empowerment). If many different institutions work together, so-called case conferences can be of an advantage to make cooperation more effective.

Before ending the case management process as well as already during the implementation phase, the process should be closely monitored and if, necessary, modified by the advisor/coach. The close accompaniment of the change process by the advisor/coach offers the participant additional support.

The end of the process should be active and binding. It contains elements of reflection, evaluation and farewell in which the handling of new situations without the advisor/coach should also be discussed.

The systems level of case management focuses on all the organisations and specialists who are involved in the solution process for those seeking advice. Here it is helpful to fall back on already existing networks of the advisor/coach as well as of the participant.

The unemployed involved require intensive individual counselling and coaching during all phases of the integration programme, starting with the identification of existing competences until after successful placement into employment. During all phases, the unemployed receives accompanying advice and coaching from an advisor/coach of the respective project partner. If possible, this person should not be replaced during the

²² Cf. Ehlers, Corinna/Müller, Matthias & Schuster, Frank (2017). *Stärkenorientiertes Case Management: Komplexe Fälle in fünf Schritten bearbeiten*. Opladen u.a.: Barbara Budrich Verlag

entire process, so that each unemployed has a constant central contact person with whom a relationship of trust can be developed.

3.4 Integration and training program

It's never easy to stare unemployment in the face. People who are unemployed are in a very stressful situation. In the meantime, it often lacks the people of money and after a while, often also in self-awareness. Through qualification measures, application training and intensive counselling and guidance, the unemployed are prepared for the requirements of the labour market.

- The qualification measure alternatively includes the programs developed in the project:
 - a) Vocational training programs leading to the degree "Environmental Consultant in Profession XY".
 - b) Further vocational training programs with the official vocational training qualification "Specialist for ...".
- These qualification measures are supplemented by needs-oriented modules to expand, deepen and update basic knowledge according to the individual needs of the unemployed.
- Within the scope of the intensive consultation and support, integration specialists support all individual integration issues. This includes for example help in the case of applications, checking job advertisements, job interviews etc. up to the mastery of the individual challenges such as finding a care places for children, specific issues of single-parenting, coordination of necessary assistance such as, for example, debt counselling or addiction counselling. In this context, application trainees, individual and group consultations and internships in companies are also carried out.

Target groups and conditions of participation

The target groups should be registered as unemployed in the employment services; after the assessment by the respective employment service, the unemployed are involved in the qualification and integration program. Passing the integration program successfully the participants receive better opportunities for permanent jobs.

The present integration program is particularly aimed at people with vocational training and experience in relevant professions, for example specialists in wastewater technology, specialists in recycling and waste management, specialists in water supply technology, plant mechanics for sanitary, heating and air conditioning technology, gas and water fitters or plumbers.

The following target groups are primarily considered:

- Persons having a vocational training in a relevant profession and several years of professional experience.
- Persons without appropriate professional training, but long years of practical experience in a relevant profession.
- Persons who have completed or cancelled relevant study courses and preferably already have professional experience.

If there are not enough participants who meet these criteria, especially in countries with small populations, it may be worth considering a pre-entry or introductory course for those who are interested but do not fully meet the entry criteria.

Implementation

The integration program should be publicized in consultations, reports in daily newspapers, and through various channels, including, in particular, the websites of the centers of excellence and the national and regional employment agencies, since the unemployed may not know about these opportunities.

The integration program is carried out by one or more educational institutions that form and operate a Center of Vocational Excellence on their own or in cooperation with other institutions. The implementers should have experience in professional training and integration of unemployed persons into the labour market and have a direct contact with companies, which ensure smooth cooperation.

The complete financing of the integration program should be secured by national or EU funds, which are managed by employment services or social / integration associations and funds.

This presupposes that the employment services or funds

- engage the respective institution to carry out the integration program and
- introduce the participants in this measure.

The participation of other groups of persons (e.g., job-returnees or refugees) is possible, if the conditions have been met and own financing, payment by companies or by other public support is guaranteed.

3.5 Fields of activity after the training

The future areas of activity of the participants are ascertained during the implementation of the integration program. In this context it is important that the participants attend at least three two- to four-week internships in enterprises to find out the individual abilities, interests and strengths in practice and to test possible, alternative fields of activity.

Depending on previous experience, individual strengths and success in the training, different areas for employment can be considered, for example:

- Installation, repair and maintenance tasks in the fields of water supply and disposal, sewage, waste and recycling management.
- Planning, execution and consulting tasks in the environmental fields mentioned above.
- Setting up a business or otherwise taking up self-employment with executive work and/or planning and consulting tasks.

3.6 Trainers

For the application of integration programs, trainers with different competence profiles should be employed:

- Qualified teachers.
- Consultants/Integration experts with strong diagnostic skills and comprehensive experience of support, accompanying consulting and integration of the unemployed.

The advisors/coaches shape and accompany the entire qualification and coaching programs. He/she

- participates in the identification of competencies and the creation of individual qualification and integration programs,
- participate as teachers in the training programmes,
- help with finding internships in SMEs,
- organise job application trainings and additional trainings,
- support the placement into employment,
- accompany the onboarding process,
- provide comprehensive advice and support for both the refugees and the companies involved,
- provide all necessary services and assistance imaginable.

Each participant should have a reference person (advisor/coach) who offers permanent support as a central contact person. Ideally, the advisor/coach is also active as trainer. The advisor/coach should lead the realisation of the training and coaching programme.

In addition, qualified assistants should be available for specific assistant functions for the trainers and advisors/coaches as well as for various support tasks for the participants.

Especially the advisors/coaches but also individual teachers should participate in a Train the Trainer programme in order to be prepared for the comprehensive coaching tasks and at the same time establish contacts for ongoing exchange among each other.

3.7 Identification of existing competences and aptitudes

Within the framework of the 3LOE project, a procedure for the identification of existing competences and for vocational and qualification counselling is being developed and implemented (see result 3.1 Tool for vocational guidance), which can ideally also be used for the integration of unemployed people.

Existing competences, skills and aptitudes are assessed in a two-stage procedure:

Stage 1: Self-assessment with electronic questionnaire

Stage 2: External assessment through personal interviews

The interviews (stage 2) shall be based on the results of the self-assessment (stage 1). The interviewers get a personal impression of the participants and are encouraged to question possible contradictions or irregularities in their self-assessment. It is of

utmost importance to evaluate the self-assessment questionnaire before conducting the interview in the second stage of the assessment process. The results of the self-assessment questionnaire form the basis of the subsequent interview.

Ideally, the interview should be conducted by two (maximal three) people. One is the central contact person, who continues to support the participants in all training courses. This person is the permanent contact person (advisor/coach) during the entire process and serves to build trust and well-being. The other interviewers are a subject specialist (e.g., teacher) and/or a labour market expert.

The interview should last about 60 – 90 minutes. After the interview, the interviewers take time to discuss the answers privately in order to provide joint feedback and decide on further support measures. After the short break for the participant, he or she will be invited back into the room to discuss the results of the assessment and further steps. The results should also be sent to the participant in writing.

Based on the results of the assessment procedure, the advisor/coach develops an individual qualification and integration plan together with the unemployed which includes in particular:

- Profession and intended occupational activity.
- Further vocational training to be completed with information as to whether the entire programme or only certain modules should be attended.
- The number, duration, type etc. of internships in companies.
- Any additional trainings that may be required.
- Job application training.
- Sequence of professional qualification and integration into working life.
- The individual qualification and integration plan is the basis for carrying out the subsequent phases and will be updated, as well as modified and amended if needed, throughout the entire process.

The integration program consists of content and time related sequence and combination of different modules.

- Specific training and consulting program for the unemployed
- Identification of existing strengths and competencies
- Additional training for skills shortages
- Completion of the various parts and topics of the qualification programs
- Internships in companies, each with two to four weeks duration
- Support and placement into employment

- Individual monitoring and coaching program while the whole integration program and - if necessary - even after completion of the program (e.g., function as contact and supporter during incorporation at the new workplace)

The integration program is a full-time program. Depending on the composition, prior experiences etc. of the participants the program should last for at least seven months, as a rule nine to ten months.

If possible, a possibility of extension by at least 2 months should be provided and agreed if any emerging problems, additional training etc. should be necessary, and in particular if participants should not directly after completion of the integration program get a job, receive support, training and placing in a job.

Depending on prior knowledge and experiences as well as learning success during the integration program, there are different possibilities to complete the integration program.

- Exam and official qualification of recognised “Environmental consultant” or “Specialist for....”.
- Exam with exam certificate as well as comprehensive report with identified personal strengths, personal-social skills, acquired knowledge and differentiated recommendations about appropriate areas of activity.

3.8 Model examples for the course of the integration program

Example for the course of the integration program with the degree "Environmental Consultant"

- a) Four to six-week training “Competency assessment, post-training, coaching”
 - ✓ Identification of individual competencies and strengths
 - ✓ Specific training, application in practice, individual coaching, application for internship
 - ✓ Additional training
 - Qualifications that are particularly significant for completing the qualification programs
 - specific techniques

- personnel and social skills
- b) Two-week training A Technologies in water supply with 60 – 80 hours
- c) Three to four-week internship in an enterprise A
- d) Three-week training B Technologies in water saving with 80 – 100 hours
- e) Three to four-week internship in an enterprise B
- f) Three-week training C Greywater and rainwater utilisation technologies with 80 – 100 hours
- g) Three to four-week internship in an enterprise C
- h) Three-week training D Decentralised wastewater treatment technologies with 100 – 120 hours
- i) Two to three-week internship in an enterprise D
- j) Three-week training E Fundamentals of the circular economy with 80 – 100 hours
- k) Two-week training F Systemic solution-oriented consulting as well as final ex-am with 60 – 80 hours
- l) if necessary two to four-week training “Coaching, additional Training”
 - Specific training, individual coaching, placement in employment
 - If necessary, additional training and in-depth in a subject

Activities in a) – l) are accompanied by individual coaching (with regular meetings for consultation).

Example for the course of the integration program with the degree "Specialist for...."

The training and integration program follows similar basic principles but is shorter and more compact and the qualification measures are directly linked to the internship in SMEs. Alternatively, the qualification measures of further vocational training (see 1.2) are used, namely

- A Preparation and management of SMEs for work in the Green Economy
- B Waste reduction and recycling management
- C Wastewater, treatment and recycling management
- D Water supply and saving

E Cradle to Cradle in SMEs (C2C includes a circular economy with a 100% recycling rate of all produced goods).

F Energy generation from wastewater and waste

After completion of one of the six above-mentioned qualifications, a re-integration into working life takes place. If necessary, however, the following can also be done afterwards:

- further blocks with other qualifications of the vocational further training and/or
- trainings of the qualification program "Environmental Consultant" (see 1.1) and/or
- trainings of the study modules (see 1.3).

can be connected.

The different combination possibilities result in

- high flexibility
- strong orientation towards individual competences and needs
- distinctive orientation towards the requirements of the job market
- rapid re-integration into working life

4. Guidelines for the development and creation of new NQF5 qualification profiles²³

The project emphatically pursues the goal of strengthening and intensifying continuing vocational training in all participating countries. A very important aspect of this is the creation of nationally and internationally recognized official further education qualifications at EQF Level 5, because such qualifications are of great importance.

- They open up special career and earning opportunities for skilled workers.
- They strengthen the attractiveness of vocational education and training.

²³ Prepared by Aimie Jung, BSc & DI Heidrun Bichler-Ripfel, Institute for Applied Research on Skilled Crafts and Trades

- They promote permeability between vocational training and higher education as well as the recognition of competences already acquired qualifications. On this basis, it is also possible, for example, to realize trial study programs with the three official qualifications of initial vocational training, continuing vocational training and Bachelor's degree²⁴.

Of the participating countries, only Germany has such qualifications. Here, recognized vocational training qualifications can be achieved in two different ways in the very long term:

a) The chambers can develop corresponding further training qualifications and examination regulations that are valid for the respective chamber area.

b) The Federal Ministry of Economics can issue corresponding continuing education qualifications and examination regulations in ordinances that apply to the entire federal territory.

The Center of vocational Excellence Austria wants to achieve corresponding legal regulations as part of the 3LOE project. Higher vocational education and training is to be expanded in Austria. The following qualifications are currently defined in vocational education and training in Austria:

- Apprenticeship qualification, categorized at level 4 of the National Qualifications Framework (NQF)
- Completion of the master craftsman examination at level 6 of the National Qualifications Framework (NQF)

There is currently a lack of qualifications at level 5 of the National Qualifications Framework (NQF) in continuing vocational education and training. For this reason, the Institute for Applied Research on Skilled Crafts and Trades from COVE Austria in the project worked on:

²⁴ See Promoting permeability through dual bachelor's programs with integrated initial and further vocational training (BA&VET), Hanse-Parlament, Hamburg 2024, www.ba-vet.eu

a) The development of a concept for the realization of officially recognized further education qualifications in Austria.

b) In accordance with this concept, the realization of first official further education qualifications with national recognition.

c) For corresponding realizations in other countries, development of a guide for the creation of official further education qualifications.

The results achieved were transferred together with the German regulations to the COVEs of the other partner countries in order to realize official, nationally and internationally recognized further education qualifications in all participating countries in the medium term.

On the basis of new legal regulations in Austria, the Institute for Applied Research on Skilled Crafts and Trades was able to build comprehensive expertise by creating new qualification profiles at NQF level 5 and gaining a wealth of experience. It became clear that, despite the differences in the qualification profiles, the processes are similar and there are a few things to bear in mind. The developed guide aims to share these experiences and familiarize other project partners and interested parties with the steps in developing new qualification profiles on NQF 5.

4.1 Creating optimal framework conditions

4.11 Survey and Clarifications of the legal regulations

Before a new training or qualification profile can be created and offered in a (European) country by the National Qualifications Framework at NQF level 5, the legal framework conditions must be clarified. In principle, the European Qualifications Framework (EQF) or a country's respective National Qualifications Framework (NQF) forms the basis for developing new NQF5 qualification profiles.

In addition to legal regulations, it is also important to know which traditions, processes, regulations, institutions, and the like must be observed and are important when creating new qualification profiles. In this way, any hierarchies can be considered, the bureaucratic effort can be kept lean and at the same time expertise, cooperation, and synergies can be put to effective use.

In Austria, for example, there is a long tradition of dual vocational training. As a result, examination centers for journeyman and “master craftsman” examinations have already been established for many occupational groups in all federal states, which hold examinations by the training regulations of the individual apprenticeships or the head craftsman examination regulations of the respective professions. The Higher Vocational Education and Training Act (HBB Act) also came into force on May 1, 2024. In Austria, this forms the basis for the creation of new qualification profiles from NQF level 5.

4.12 Own structured project management

As soon as a new qualification profile is created, it is essential to establish a structured project management so that the entire process - from planning to implementation - can be managed successfully. Many different stakeholders participate in the development and implementation of a new qualification profile at NQF 5. In addition to educational institutions, these include companies, examination and certification bodies, trainees, ministries, and chambers.

It is ideal to have a partner who is well connected - both with ministries and with education providers or legislative institutions.

Project management can be taken on by educational institutions such as the WIFI (Vocational Training Institute in Austria), for example. Alternatively, depending on the size of the project, professional groups themselves or people from the professional

association or a research institute with experience in the education sector and project management can also take on this task.

A network that offers mutual support is essential for success, as to enter targeted cooperation with other stakeholders so that everyone can pull together, and it is always clear which common vision is to be implemented.

As part of project management, it is important to identify the resources required at the outset and to clarify how much time and how many financial resources are needed to develop a new qualification profile.

A budget including a budget plan must be drawn up and a person appointed to manage the budget.

4.13 Tips & Tricks

Creating good framework conditions

"Many people don't take things for granted!" - This begins, for example, with the type of meeting: whether ZOOM meetings appear efficient for a professional or interest group or are considered an impersonal, counterproductive form of meeting must be clarified in advance. Similarly self-evident matters - such as objectives, time management, and procedures including breaks - must be communicated and agreed upon to ensure the success of a project.

Common wording - common vision

Education is different from training is different from vocational training! - During the project, it has become clear that it makes sense to clarify right at the beginning how different terms are understood and used within the framework of the joint project. Particularly in the "world of education", where there are different traditions in the various European countries, the same terms are often understood and used differently regionally, nationally, and internationally.

In German-speaking countries, there are also differences in terminology between Austria and Germany for the same meaning, e.g., apprentice and trainee. Similar experiences have been made with English-language texts between American and British English, for example, or with English translations when English is not the native language.

Rough draft instead of "white sheet of paper" (blank sheet)

While the start of a project is often associated with a blank sheet of paper and is often actually started on a "white sheet", in many cases it is more efficient to present a draft for discussion. Such a draft provides a concrete basis that enables a team to give targeted feedback and make suggestions for improvement. This speeds up the creative process and prevents lengthy, fruitless discussions.

A prepared draft can help to define the direction of the project more clearly and sharpen the focus of teamwork. There must be still enough room for creativity and innovative ideas to promote innovative solutions and maintain the joy of creative work.

Benefits of EU initiatives and EU funding

Finally, we would like to remind you to keep your eyes open for EU initiatives and EU funding as well as to maintain the new 3LoE-EU project contacts and stay connected!

- ✓ To use contact points such as EU initiatives and EU funding or the national labor market service, interested educational institutions as well as company representatives who are interested in innovative training and sustainable qualifications and contribute to implementing the goals of climate change adaptation and energy transition.
- ✓ It is also advisable to create a list of those 3LoE partners with whom you have already had a valuable experience and share it on social media such as LinkedIn,

Facebook or Instagram to stay in touch!

4.2 Guide – the individual steps

Once the framework conditions have been clarified and structured project management has been established, the content-related work can be conducted by creating a group of experts. This chapter describes the individual steps of how we have developed higher vocational education and training in Austria.

In principle, there are 8 steps to developing & creating new NQF5 qualification profiles:

- 1) Expression of Interest by a Professional) Group**
- 2) Nominating Experts**
- 3) Concretize Contents**
 - a. e.g. pre-formulate learning outcomes or
 - b. Create a job description for the new job profile!
- 4) Needs analysis**
- 5) Developing Qualification Standards**
- 6) Developing Examination Regulations**
- 7) Course content – Developing Curricula**
- 8) Developing Examination Tasks**

It starts with one or more professional groups that are interested in creating a new qualification profile. There may be several reasons for this, i.e.:

- Technological changes,
- Legal changes,
- Shortage of skilled workers,
- New situations in the labor market
- and much more.

As with a good movie, most of the success often depends on the perfect casting in addition to a delightful story. When creating a new qualification profile, the situation is

similar: in addition to specifying the content of the training ("story"), it has been shown that success depends on the selection of a suitable development team ("cast"):

the right group of experts.

The group should be interdisciplinary and well "mixed", consisting of practitioners, teachers, head craftsperson examiners, and training companies. And - it makes sense to nominate a group of experts in consultation with the respective interest groups.

Here is an overview of the different areas an expert group should cover:

1) Professionally

Entrepreneurs as well as teachers (of previous preparatory courses, for example), (head craftsperson) examiners; (training) companies, educational institutions, professional associations (chambers)

2) Geographically

In the case of federally organized countries such as Austria, at least one expert per (federal) state or region should be represented in the overall group in the case of nationwide training.

3) Balanced ratio between theory and practice

Both practitioners (such as entrepreneurs) and experts (with a focus on theory, teaching, or research) should be considered and represented.

4) Hierarchically

Organizing and moderating the entire development process through (internal/external) project managers has proven successful.

The checklist is intended to provide an initial overview of the extent to which an expert group covers the various areas.

CHECK-LIST

Is my expert group balanced and complete?

- 1) Is there at least one proven practitioner in this field? (possibly an entrepreneur)
Yes / No
- 2) Is there at least one representative who has experience in the field of vocational training?
Yes / No
- 3) Is there at least one representative who is an entrepreneur and has experience in training employees?
Yes / No
- 4) Is there at least one representative who has experience in holding examinations?
Yes / No
- 5) Is there at least one representative who has experience in dual training (apprenticeship)?
Yes / No
- 6) Is there at least one representative who is a proven specialist in this field?
Yes / No
- 7) In the case of federally organized states: Is there at least one representative from each federal state?
Yes / No

To ensure a balanced group of experts, it should be possible to answer "yes" to every question.

4.21 Concretize contents

The next step involves fleshing out the content in collaboration with interested experts from one or more professional groups.

It has proven useful to divide this process into two rough steps:

1. First, the project managers or moderators of the process discuss specific proposals, planned content, and topics with the leaders of the professional group bilaterally or in small groups in the form of interviews and preliminary discussions.

2. In the second step, these proposals are formulated in the form of learning outcomes or job descriptions. Only these written drafts are presented to the entire group of experts to jointly review, supplement, improve, or reject the content - in other words, to concretize it in even greater depth.

It has been shown that concrete, written proposals in a group deliver clearer and quicker results and decisions than a joint start on a blank paper.

A needs analysis ensures that the training content is not already available on the market and that there is no duplication. The greater the need identified, the greater the success of a new training or qualification profile can be assessed.

A needs analysis can be conducted in different ways, for example in the form of an online survey or a motive report from the respective interest group.

In Austria, according to the HBB Act, before creating a "higher vocational training program" a needs analysis has to be prepared.

4.22 Developing qualification standards

The qualification standard forms the basis for developing a new qualification profile by the National Qualifications Framework.

The basic question is: "What should the candidate be able to do after having completed the training?" - The respective qualification standard answers this question with a list of learning outcomes.

Based on a list of learning outcomes, a qualification standard clearly defines the knowledge, skills, and competencies a candidate should have after completing a training program.

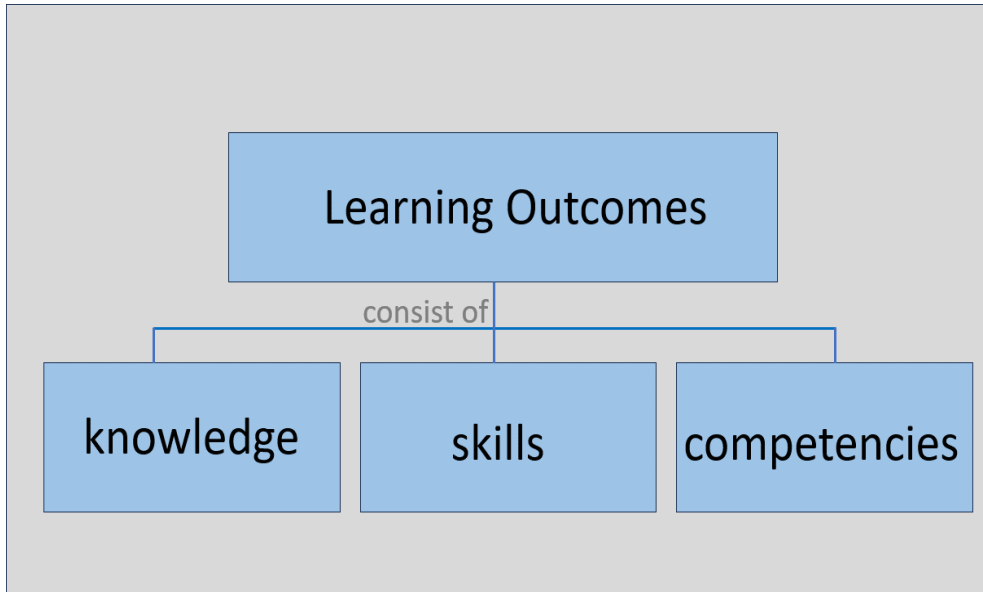


Figure 1: Definition - Learning outcome

Learning outcomes are precise formulations of what learners should know, understand, and be able to do at the end of an educational process. They focus on the knowledge, skills, and competencies acquired and are often defined as measurable and observable objectives. The appendix contains specific examples of learning outcomes and an excerpt from the qualification standard and the examination regulations of the pilot project "NQF5 Technical energy efficiency consultant".

4.23 Developing examination regulations

Examination regulations stipulate by law how examinations are to be conducted. Examination regulations govern the following:

- Type, scope, and form of the examination (duration, written, oral, practical, etc.),

- Admission requirements for the examination,
- Credits,
- Composition of the Examination Board,
- Costs of the courses or training and examination, examination fee,
- Repeat examination,
- And similar.

4.24 Course content and examination tasks

It is an advantage if a training provider (Vocational Training Institute, i.e. WIFI in Austria) is already involved in the development of the new qualification profile. This allows teachers and employers to agree on what participants should be able to do after completing the training so that they can be optimally deployed in companies and establish themselves in the labor market. In short: it is defined as what and how is to be taught and evaluated in theory and practice, and to what extent.

It has proven to be successful to develop suitable examination tasks and evaluate them before the first examination so that the scope, level, and time required for an examination can be well coordinated.

Suitable certified inspection bodies must also be established.

4.3 Outlook

Much has already been achieved as part of the 3LoE project! In Austria for example, this includes the implementation of a new law (HBB Act), which enables the realization of numerous new qualification profiles at NQF level 5. The successful exchange with

the 3LoE project partners regarding the dual study program is also an important milestone.

This is encouraging and allows us to look to the future with optimism. We are convinced that by promoting international cooperation, pursuing best practices, and maintaining our 3LoE network, great progress can be made in improving vocational training.

This guide is intended to make a further contribution to implementing the objectives of the 3LoE project, namely:

- ✓ by making it more attractive and
- ✓ improving dual vocational training

to bring about positive change and create sufficient qualified specialists for the green economy.

The annex to the guideline contains:

- Example learning outcomes
- Example – Qualification standard – Draft of “NQR5 technical advice energy efficiency”
- Example – Examination regulations – Draft of “NQF5 Technical energy efficiency consultant”

These annexes as well as detailed descriptions of all official further education qualifications developed in the project for Austria can be found in Result 4.11 Regulations for new continuing education occupational profiles, www.3-loe.eu

Third center level "Higher education"

1 Overview Concept, Tools and Curricula

The following concepts, tools and curricula were developed and implemented for the third Center Level (EQF Level 6 and 7).

1. Dual Bachelor program Management of Renewable Building Energy Technology
2. Dual Bachelor program Business Administration for SMEs
3. Dual Bachelor program Business Administration & Sustainable Management of SMEs
4. Dual Bachelor program Entrepreneurship & Innovation in Green Economy
5. Dual Bachelor program Electrical and Automatic Equipment
6. Dual Bachelor program Logistics - Green Supply Chains
7. Dual Bachelor program Sustainable Building System Technology
8. Tutorial Sustainable management Climate neutrality for companies
9. Four study modules "Green Economy" for integration into existing bachelor's degree programs or for further education for university graduates
 - A Management & Technologies of the Water and Wastewater industry
 - B Waste Management & Technologies
 - C Management & technologies of the circular economy
 - D Management of sustainable economic activity
10. Concept for innovation promotion and conducting manageable R&D projects for SMEs
11. Training program for university lecturers and SME advisors

The following are examples from the extensive programme for higher education developed and implemented in the 3LOE project

- Dual Bachelor's Study Program Business Administration and Sustainable Management for SMEs
- Technology transfer process and the handling of manageable R & D tasks in SMEs 9

All results, which can be used free of charge without restriction, are published on the project website www.3-loc.eu.

2 Business Administration and Sustainable Management for SMEs²⁵

2.1 Introduction

The global climate crisis, the advancing environmental destruction and the continuous consumption of the earth's natural resources have led to an intensive discussion about the sustainability of business. Changes in consumer behaviour towards a more conscious consumption of sustainable products as well as the political setting of environmental and climate targets (such as through the European Union's Green Deal) present companies with new challenges. Both climate-neutral and sustainable products must be developed, as well as resource-saving processes along the entire value chain. For small and medium-sized enterprises in particular, this structural change is associated with both challenges and opportunities.

"Green innovations" in products and processes are not automatically sustainable. A holistic understanding of ecological, social and economic sustainability and its implementation in companies is required. Sustainable action affects all functions along the value chain, starting with the development of sustainable products, the management of sustainable supply chains, resource-conserving production, and sustainability-oriented marketing. In order to be able to accompany and evaluate such entrepreneurial

²⁵ Prepared by Berufliche Hochschule Hamburg

innovations and transformation processes, it is necessary to have an understanding of the company's internal service production processes and cross-company value chains. Knowledge about the use of environmentally friendly and renewable resources should contribute to finding the basis for entrepreneurial decisions that make economic and ecological sense as well as being ethically responsible.

This course of study is therefore concerned with the acquisition of interdisciplinary competencies for sustainable management in small and medium-sized enterprises (SMEs). This includes a basic education in business administration and sustainability concepts. A consistent sustainability orientation can be an important success factor for SMEs in the future in maintaining and expanding their competitiveness. Since there are generally polypolistic market structures relevant for SMEs, they must therefore have a sound knowledge of business management contexts that enables them to constantly adapt their own range of products and services to changing market conditions.

2.2 Objectives and didactic concept

As part of the dual study program "Business Administration and Sustainable Management for SMEs", students acquire comprehensive business skills for analysing and evaluating entrepreneurial processes. In doing so, they are put in a position to reflect on operational structures, processes and procedures, which they become familiar with from their own perspective within the framework of the dual study program. They learn to do it in a theory-based manner and to apply and transfer their knowledge to these structures, processes and procedures. In this context, they are also qualified to understand the overall entrepreneurial process as part of a complex value creation process that must be designed in a sustainable manner.

As (future) specialists and managers, they therefore also acquire the competence during their studies to systematically record, analyse and evaluate complex business

situations on the basis of suitable figures, data and facts and to design business performance processes. On a well-founded business management basis, they are thus able to use the results for improvements, further developments and innovations. These competencies form the basis for a holistic evaluation of corporate decisions with regard to economic, ecological and ethical aspects.

The professional qualification of the students also includes the increasing assumption of operational management and leadership tasks. This requires the consideration of comprehensive technical and interdisciplinary aspects.

2.21 Program Objectives

The following is an overview of the central qualification goals of the study program "Business Administration and Sustainable Management for SMEs":

- Imparting business management competence for the analysis and evaluation of business processes and sustainable entrepreneurial action, especially in small and medium-sized enterprises.
- Ability to reflect on business structures, processes and procedures in a theory-based manner, especially with regard to sustainability.
- Ability to apply and transfer business management knowledge to operational structures, processes and procedures.
- Development and expansion of the understanding of responsible entrepreneurial action as a component of a sustainable value chain.
- Imparting comprehensive business management competencies for the assumption of sustainable management and leadership tasks in SMEs.
- Competence to systematically record, analyse and evaluate operating results on the basis of appropriate figures, data and facts, taking sustainability into account.
- Ability to analyse operational performance processes and to design them with a view to sustainability

- Ability to use the results for improvements, further sustainable developments and green innovations.
- Promotion of personal, methodical and social competence to communicate with relevant operational groups (e.g. business partners, employees, customers, suppliers) to communicate successfully.

2.22 Didactic Concept

The design tasks in SMEs demand not only a broad spectrum of business knowledge from junior executives, but also in particular social-communicative, methodological and action competencies. During the course of study, students are therefore increasingly enabled, in smaller groups and with the help of participant-oriented methods, to develop scientifically sound analyses and solution concepts for business management problems, which can be implemented in management and leadership tasks of medium-sized companies, so that they can assume leadership responsibility with increasing professional experience.

The bachelor's degree program "Business Administration and Sustainable Management for SMEs" is geared towards the specifics of a sustainability orientation and the needs of small and medium-sized enterprises. Since there is no closed theoretical concept of sustainable business management for SMEs that can be built upon, the orientation towards sustainability and SME problems is implemented through the design of subject specific core modules, which also address sustainability as well as SME-specific problems and solution approaches from their respective perspectives. The core modules offer a basic and intensive consideration with common business management contents, which are necessary for the assumption of management and leadership tasks as well as the further development of SMEs in the field of sustainability. Furthermore, the specialization options in the third and fourth year of study are suitable to promote the students' competence with regard to the analysis and evaluation of sustainability aspects

on the basis of a systematic collection and evaluation of essential information on the one hand but also to deepen personal communication competences on the other hand.

As a dual course of study, the didactic concept is geared towards a theory-based as well as application-oriented teaching of competencies in the course of study and is interlinked with a coordinated practical training in the company.

The courses are organized on a part-time basis, thus enabling students to gain practical experience in the company. Between the course phases, the students are active in practice. This form of organization enables students to reflect on what they have learned in practice between courses and to prepare and follow up courses as part of their independent study.

In order to ensure an intensive acquisition of competences, the courses are predominantly held in small groups of approx. max. 30 students. Even in courses that are designed as "lectures" for larger groups (from experience max. 60 students), the interactive teaching discussion still dominates as a rule. In the smaller groups, participant-activating and cooperative methods such as group work and case studies are used. Within the framework of group work, students are encouraged to bring in practical experience from their own training company and thus to relate theory and practice with the help of the lecturer himself.

The relationship of the practical training components to the course of study is ensured and guided by the practice modules in the form of four reflections on practice and a capstone project.

Reflections on practice are student term papers that are written in the course of the practical training on subjects that are related to the studies at the University. These practical examinations contain concrete tasks and problems of the operational practice, which are to be worked on with the technical and methodical competences acquired during the studies.

The capstone project comprises a complex operational problem from practice, which is worked on in an application-oriented and, if possible, multidisciplinary manner

on the basis of the contents and competencies acquired during the course of study. The work is carried out in student groups (teams) of 4 - 5 participants.

During the preparation of practical modules, students are supervised by teachers from the University.

2.3 Structure and Sequence of Studies

The structure of the curriculum is geared towards both central business management fields of action, decision-making and design as well as consistent process management that takes into account the sustainability of corporate, business and work processes. It provides students with the necessary fundamentals to recognize business structures in the company, to align themselves with customer needs, to organize processes efficiently, to control them in a goal-oriented manner and to constantly improve them, as well as to actively pursue the goal of sustainability.

The structure is characterized by interdisciplinary, subject-specific, practice-integrating modules as well as elective modules. The Bachelor's thesis is the final module. The structure of the modules is shown in the following figure.

In the first year of the program „Business Administration and Sustainable Management for SMEs“, business management qualifications are taught in the core modules "Basics of general economics", „Basics of Environmental Economics“, "Basics of Business Administration", "Human Resources Management in SMEs" and "Sustainable Marketing" and, in addition, interdisciplinary qualifications are taught in the modules "Scientific Work and Research Methodology" and "Business English". By the end of the first year of study, a first reflection on practice must be prepared in accordance with the module description.

Interdisciplinary Modules (24 CP)

- scientific work and research methodology
- business english
- Basics skills of communication and consulting
- project management

Subject Specific Core Modules (97 CP)

- basics of general economics
- basics of environmental economics
- basics of business administration
- business and environmental law
- strategic sustainability management
- human resources management in SMEs
- sustainable marketing
- organization and change management
- sustainable supply chain management
- internal and external accounting
- sustainable financing and investment in SMEs
- corporate controlling
- human resources development in SMEs
- Qualifications of trainers in SMEs

**Practice-integrating study modules (35 CP)**

- relating to subject specific core modules
- transfer of knowledge /innovation from university to companies

Elective Modules (12 CP)

- cradle to Cradle and green innovation in SMEs
- sustainable Entrepreneurship
- business English (intensification)
- introduction to business computing

Bachelor-Thesis (12 CP)

In the second year of study, the basic business qualifications are expanded by completing the core modules "External Accounting", "Sustainable Financing and Investment in SMEs", "Materials management", "Basics of Commercial and Environmental Law" and "Internal accounting and basics of business taxation". The interdisciplinary qualifications are extended by the module "Communication and Consulting". As part of the business part of the program, a practical reflection must be completed in the second year of study in accordance with the module description.

In the third year of study, students complete the core modules "Organization and change management in SMEs", "Strategic Sustainability Management" and "Sustainable Supply Chain Management" to further build up business skills and qualifications especially with regard to sustainability. The interdisciplinary qualifications are expanded by the module "Project Management". In addition, the elective module "Cradle to Cradle and green innovation in SMEs" must be completed as a specialization to expand and deepen the business management qualifications. Alternatively, a deepening of the qualification in the field of Business English can be chosen (elective module „Business English (intensification)“). Furthermore, in the third year of study, a further practical reflection and the capstone project must be completed in accordance with the module descriptions.

In the fourth year of study, the modules "Corporate Controlling", "Human Resources Development in SMEs" and "Qualifications of trainers in SMEs" must be completed. In addition, one of the two elective modules "Sustainable Entrepreneurship" or "Introduction to business computing" must be completed as a specialization to expand and further deepen the business management as well as the sustainability qualifications. By the end of the fourth year of study, the fourth practical reflection must be completed in accordance with the module description.

In the fourth year, students write a Bachelor's thesis. This examination performance has a scope of 12 CP.

The company-based part of the dual study program is completed over the entire period of study in the company or organization with which a study contract has been concluded. The companies are given the opportunity to take into account company or industry-specific features in such a way that, in addition to general fundamentals, special e.g. technical knowledge can also be imparted in the respective trade. During the company period, the companies or organizations provide appropriate support for the study content on the basis of the module descriptions provided by the University.

2.4 Curriculum Overview: Module List

Module No.	Module / Study unit	Credit Points (CP) Academic year				Workload in hours		Total Hours
		1.	2.	3.	4.	Hours Full-time course	Hours Self-studies	
Interdisciplinary modules								
BWÜ 1	Scientific work and research methodology	6				48	102	150
BWÜ 1.1	Scientific work					24	51	
BWÜ 1.2	Research methodology and statistics					24	51	

BWÜ 2	Business english	5				64	61	125
BWÜ 2.1	Business English					64	86	
BWÜ 3	Basics of communication and consulting		6			52	98	150
BWÜ 3.1	Basics of communication and consulting					32	60	
BWÜ 3.2	Presentation					20	38	
BWÜ 4	Project management			5		46	79	125
BWÜ 4.1	Basics of project management					46	79	
Subject specific core modules								
BWM 5	Basics of general economics	5				46	79	125
BWM 5.1	Basics of general economics					46	79	
BWM 6	Basics of environmental economics	5				46	79	125
BWM 6.1	Basics of environmental economics					46	79	
BWM 7	Basics of business administration	5				46	79	125
BWM 7.1	Basics of business administration					46	79	
BWM 8	Human resources management in SMEs	7				72	103	175
BWM 8.1	Basics of Human resources management in SMEs					38	54	
BWM 8.2	Personnel management					34	49	
BWM 9	Sustainable marketing	6				58	92	150
BWM 9.1	Sustainable marketing					58	92	
BWM 10	External accounting		7			62	113	175
BWM 10.1	Accounting					24	43	
BWM 10.2	Annual financial statement, income statement, and balance sheet					38	70	
BWM 11	Sustainable financing and investment in SMEs		6			58	92	150

BWM 11.1	Sustainable financing					20	34	
BWM 11.2	Sustainable investment					38	69	
BWM 12	Materials management		6			52	98	150
BWM 12.1	Basics of materials management and supply					32	53	
BWM 12.2	Basics of warehouse management					20	45	
BWM 13	Basics of commercial and environmental law		6			58	92	150
BWM 13.1	Basics of commercial law					30	48	
BWM 13.2	Basics of environmental protection law					28	44	

Module No.	Module / Study unit	Credit Points (CP) Academic year				Workload in hours		Total Hours
		1.	2.	3.	4.	Hours Full-time course	Hours Self-studies	
BWM 14	Internal accounting and basics of business taxation		7			62	113	175
BWM 14.1	Cost and performance accounting					38	70	
BWM 14.2	Basics of business taxation					24	43	
BWM 15 in SMEs	Organization and change management in SMEs			7		62	113	175
BWM 15.1	Basics of organizational management and organizational development					28	51	
BWM 15.2	Change Management in SMEs					34	62	
BWM 16	Strategic Sustainability Management			6		52	98	150
BWM 16.1	Strategic Sustainability Management					52	98	
BWM 17	Sustainable Supply Chain Management			6		52	98	150

BWM 17.1	Basics of Sustainable Supply Chain Management					32	60	
BWM 17.2	Sustainable logistics					20	38	
BWM 18 Corporate Controlling					6	52	98	150
BWM 18.1	Basics of operational corporate planning					16	28	
BWM 18.2	Operational corporate controlling in SMEs					36	70	
BWM 19 Human resources development in SMEs					6	48	102	150
BWM 19.1	Human resources development in SMEs					48	102	
BWM 20 Qualifications of trainers in SMEs					7	72	103	175
BWM 20.1	Qualifications of trainers in SMEs					72	103	
Elective modules (two out of four)								
BWM 21 Cradle to Cradle and green innovation in SMEs					6	52	98	150
BWM 21.1	Cradle to Cradle					12	60	
BWM 21.2	Innovation management					40	38	
BWM 22 Sustainable Entrepreneurship					6	52	98	150
BWM 22.1	Basics of sustainable entrepreneurship					16	30	
BWM 22.2	Start-up and succession of sustainable business					36	68	
BWM 23 Business English (intensification)					6	52	98	150
BWM 23.1	Business English (intensification)					52	98	
BWM 24 Introduction to business computing					6	52	98	150
BWM 24.1	Introduction to business computing					28	53	
BWM 24.2	Digitization of business processes					24	45	
Practical modules								
						Full-time	Time in practice	

BPR 26	Reflections on practice 1	5				4	121	125
BPR 27	Reflections on practice 2		7			4	171	175
BPR 28	Reflections on practice 3			8		4	196	200
BPR 29	Capstone project			7		32	143	175
BPR 30	Reflections on practice 4				8	4	196	200
Module No.	Module / Study unit	Credit Points (CP) Academic year				Workload in hours		Total Hours
		1.	2.	3.	4.	Hours Full-time course	Hours Self-studies	
Bachelor's thesis								
BWM 31	Bachelor's thesis				12			300
CP p.a.		45	45	45	45			
Total hours (contact studies and self-study)						1260	2113	
Total hours of practical elements (practice hours)								827
Total hours of the bachelor's thesis								300
Total hours of the course of study						4500		
Total CP of the course of study		180						

Module Handbook see result 5.1 Dual Bachelor Degree Programs, www.3-loe.eu.

3 Technology transfer process and manageable R & D tasks in SMEs

3.1 Promoting innovation and SME needs

Small and medium-sized enterprises are the backbone of the economy. At the same time, they stabilize the development of the society. They are anchored in their region and can use the possibilities of international cooperation and strengthen their position without relocating their workplaces abroad. The economy of the Baltic Sea Region will be shaped mainly by small and medium-sized enterprises, which provide over 99% of all services and about 70% of all workplaces. The Baltic Sea Region, with its efficient SME economy, has excellent opportunities for economic strengthening and mastering international competitiveness. The Baltic Sea Region has the best prospects to develop into an innovative and economically strong region with international recognition.

The Baltic Sea Region has excellent potentials at its disposal in the field of knowledge economy, university education, as well as research and development. Employees are the most important asset especially in small and medium-sized enterprises. However, in this respect significant shortages are looming for the future. Securing the inflow of trainees to excellently qualified enterprises, management and labor force, as well as significant innovations decide about the future of small and medium-sized enterprises, and therefore, they are the most important support task for SMEs and crafts.

Mastering the future requires intensive cooperation: “links are more important than products “. Information technologies come as problem solvers when needed. Cooperation’s concentrate strengths, however, they preserve independence. Trust and cooperation management is sought after. Successful enterprises and cooperative cultures have to be based on strengths, encompass integration of employees and use the creative potential of all minds. And indeed, SMEs require specific assistance for as the use of opportunities and minimizing the risks.

At the time of the Hanseatic League the Baltic Sea Region has been one of the most innovative regions in the world and also today it has distinct innovation potentials at its disposal, which have to be generated and used. The international competition can be won only provided that the Baltic Sea Region will be faster and better than other regions, and again, the most innovative territory in the world.

Effective innovation strategies in the Baltic Sea Region have to extend region-specific strengths, support spatial cooperation of strong points and the division of labor, as well as use cultural differences as a potential for creativity.

Excellent fields for innovation for the SME economy apply to all domains which are currently shaped by shortages. Within the shortage areas of energy, climate and environmental protection, health, information processing and problem-solving capabilities, electronic production and communication systems, as well as personal and organisational development, the Baltic Sea Region has distinguished learning and re-search capabilities, as well as large entrepreneurial potential at its disposal, so that especially promising starting points for targeted innovation policy could emerge here.

Support for research and development by universities and colleges has to turn towards the SME economy in a more intensive and consistent way. Promotion of some clusters of high-tech development is an important part of the present innovation policy. However, a specific innovation promotion for small and medium-sized enterprises must be particularly developed and intensively realized. Customer-oriented definition of innovations and a more concise policy of support is therefore important here and it can allow for example for the development of adjusted techniques and new products, new forms of organization and the involvement of employees in the process of innovation or the transfer of technology.

Colleges and universities have to assume the transfer of innovation, which is an essential task for small and medium-sized enterprises, as a binding and obligatory task. Study and graduation activities should consistently incorporate the development tasks of small and medium-sized enterprises.

Cooperation between colleges and universities, as well as small and medium-sized enterprises has to be strongly improved and expanded. Therefore, chambers and prominent support institutions of the SME economy can assume the economic communication functions.

Promotion of SMEs must be given highest priority. Particularly important for small and medium-sized companies are long-term strategies that are implemented consistently and reliably. SMEs need a reliable framework in which they can orient themselves and conduct safe planning.

Smaller companies cannot have at their disposal corporate staff functions, as large companies' do that would cover a variety of management tasks. In case of the medium-sized businesses those staff functions and support functions need to be rendered outside within the framework of universities and economic self-government. The universities are the key innovation service providers giving small and medium-sized enterprises the necessary tools and guidance, company specific and reliable, and offering them monetary benefits. Relate highest policy priorities for the promotion of SMEs:

a) the area of education, innovation and internationalization, since for many regions of the Baltic Sea the largest growth opportunities and resources for the SME sector are found here.

b) any forms of intra-and inter-company and international co-operation of SMEs, which should be systematically sourced from the chambers.

Specific innovation support for small and medium enterprises must be developed and implemented consistently. There is a need for user-and demand-driven innovation and broader support policies that actively take into account, for example, social and organizational innovations, development of appropriate technologies and new products, new forms of organization and employee involvement in innovation processes and the transfer of technology. Companies do not necessarily have to invent something themselves but could take good ideas and new technologies and modify those for

themselves. Funding for the implementation of innovations in enterprises should therefore be increased.

There is an urgent need for a broad concept of innovation that is geared specifically to the needs of small and medium enterprises. Promotion of innovation should involve development of new technologies, high-tech and appropriate tools, new discoveries and honing, product-, process-, and organizational and social innovations. A very significant added value must be sourced from all innovation subsidies, the one affecting the growth of the "human resources and organizational development" and including education, organization of work, development of partnerships etc.

The promotion of research and development by colleges and universities must turn more intensively and consistently to medium-sized businesses. Colleges and universities need to be given a mandatory task to serve as an important innovation transfer medium for the economy. In course of studies and thesis papers the issue of development small and medium enterprises should be brought up consistently. According to the principle of "region as a living laboratory" research institutions need to achieve a variety of measures to promote innovation with and for the medium-sized businesses, such as tailored research and development projects, effective knowledge sharing, development and transfer of adapted examples of best practice or the implementation of demonstration projects.

In a comprehensive study and survey of SMEs from Germany, Lithuania, Norway, Poland and Russia, the need for innovations in SMEs and their promotion was examined. The results of the study are summarized below.

The role which SMEs play in the economy of the Baltic Sea Region makes creating adequate conditions for their innovation and competitiveness growth a key challenge. For this reason, it is vital to broaden our knowledge of the level of SMEs innovation and to gather data on a demand for innovation support in SMEs.

In the study, the Baltic Sea region entrepreneurs have been asked to specify a kind and a degree of intensity of innovation changes implemented in their companies. It

turns out that marketing and product innovations are most frequent. Moreover, an innovation climate based on openness in organization culture in these companies has proved to be an important factor in innovation implementation in the majority of the analyzed SMEs. SMEs in general have a bad opinion about the innovation climate in the country in which they operate. A difficult access to financing innovation activities by financial institutions is a common problem with building a friendly innovation climate in all the analyzed countries. Major problems which SMEs struggle within innovation implementation are lack of financial resources, complicated legal procedures, and a deficiency of adequately qualified staff.

A cooperation with scientific and R&D circles and other institutions designed to increase SMEs innovation level is vital on the account of the specificity of SMEs, which generally have limited human resources and a low financial potential. The results of the analysis indicate that local authorities including chambers of crafts and commerce and entrepreneurs' associations are major partners in innovation cooperation for SMEs.

As far as an SMEs cooperation with R&D institutions is concerned, a leader-role is generally played by universities. Moreover, the intensity of this cooperation is quite high. The percentage of SMEs cooperating with R&D centers amounts to 50% in the Germany, 64% in Norway, 75% in Lithuania and 90.9% in Russia. Only the Polish SMEs declare a very low intensity of contacts with R&D sphere (only 16.37% of the Polish SMEs can boast of such contacts). The intensity of cooperation with R&D institutions does not translate into R&D projects in the Baltic Sea Region SMEs, however.

In the majority of the Polish, German and Norwegian SMEs, there have not been any R&D activities, when the study was conducted. The Russian and Lithuanian SMEs are exceptions to this rule, because 9 out of 10 analyzed enterprises have been involved in R&D projects. Product and service enhancements are a predominant type of R&D activities presented in the Baltic Sea Region SMEs.

Moreover, the study has shown that about 90% of the analyzed SMEs can see barriers impeding cooperation with scientific institutions. The major barrier SMEs

encounter is insufficient proper funds to finance R&D and difficulties with access to external financing. However, according to the SMEs, the reasons for low intensity of cooperation with R&D sphere are scientific institutions themselves - SMEs report difficulties with initiating cooperation with scientific institutions, a lack of interest of these institutions to involve in such a cooperation, and ignorance of the economic subject matter on behalf of these institutions' representatives.

Barriers preventing cooperation between SMEs and R&D institutions (in %)

	Poland	Norway	Lithuania	Germany	Russia
Substantial costs, financial barriers	41	76	50	38	55
difficulties with starting a cooperation	29	32	33	31	36
lack of interest of R&D institutions to start a cooperation	20	28	42	19	19
legal barriers	18	4	8	X	X
R&D representatives do not understand the issue	18	64	46	25	27
communication problems with R&D representatives	10	36	29	13	X
no barriers	11	8	X	6	18
other (if so, what kind of barriers)	2	x	8		x

An attempt has been made to assess the demand for innovation in SMEs when analyzing the Baltic Sea Region SMEs' innovation potential and their cooperation with R&D sphere.

It turns out that SMEs from all the countries indicate a high demand for R&D activities. Polish SMEs are an exception in this respect, because only 1 in 3 of the analyzed enterprises shows interest in R&D activities. Unfortunately, a high demand for R&D

is not accompanied by SMEs' intentions to conduct such research in the future. The study shows a high degree of uncertainty among SMEs as to satisfaction of their R&D needs.

The demand for specific types of support from universities has been much lower than the analyzed above demand for periodical R&D. The entrepreneurs have been mostly interested in periodical trainings and workshops for enterprises which were preparing, or which were involved in innovative projects, as well as information meetings on specific types of and kinds of innovations. Such a low level of demand for support from universities is due to the fact that most analyzed SMEs cannot see any potential benefits resulting from cooperation with scientific institutions.

SMEs demand for innovation support from universities (in %)

	Poland	Norway	Lithuania	Germany	Russia
information meetings on types and kinds of innovations	30,7	41,6	37,5	33,3	72,3
periodical trainings and workshops for persons preparing and realizing innovative projects	35,5	58,3	50	20	36,6
allowing access to practical training and didactical materials	22,6	16,7	16,7	20	36,4
individual consulting directly in the company	22,6	37,5	62,5	26,7	18,2
individual consulting by phone	7,3	20,8	16,7	x	x
individual consulting via e-mail	11,5	16,7	16,7	x	x
other	2,94	x	4,2	x	x

The only positive effect of such a cooperation, which a majority of the analyzed SMEs from all the countries have agreed upon, is "launching new products and services". However, the analyzed SMEs have declared a very high demand for trainings

and consulting services from scientific environment. Services, products and new technologies are desired fields of a possible cooperation.

Finally, cluster involvement in innovative projects of the Baltic Sea Region SMEs as well as their intentions to engage in future cluster cooperation have been analyzed. It turns out that the majority of the companies have not been involved in a cluster so far. Unfortunately, the majority of the analyzed SMEs do not have any intention to start cooperation with any cluster.

The above results show that it is necessary to start intense activities destined to increase the Baltic Sea Region SMEs' understanding of benefits resulting from cooperation with scientific institutions, and the involvement in a cluster venture. Moreover, abolishment of the barriers identified in this study (mainly financial barriers) limiting both innovation implementation processes and SMEs' cooperation with scientific sphere is recommended.

Expected benefits SMEs can get as a result of their R&D cooperation with universities (in %)

	Poland	Norway	Lithuania	Germany	Russia
launching new products/services	38,1	44	62,5	50	81,8
enhancing products/services quality	21,3	60	54,1	50	63,6
optimalization of organization operations	20,1	20	37,5	43,7	45,4
improvement of cooperation with suppliers and customers	30,7	48	25	31,2	27,3
sales increase	33,8	52	58,3	25	27,3
improvement of competitive position	17,7	28	58,3	32,5	45,4
costs lowering	27,1	56	75	31,2	27,3
increase of ecological activity	7,8	24	41,6	18,7	x
increase of company's prestige	27,3	52	45,8	37,5	36,3
access to latest know-how	17,9	44	25	50	27,3

possibilities of new innovations implementations	16,1	16	62,5	31,2	27,3
possibilities of HR development	9,6	16	33,3	25	9,09
gaining new customers/increasing market share	30,2	40	45,8	25	45,4
increase of company's profitability	17,2	52	45,8	25	27,3

In summary, innovation support measures for small and medium-sized enterprises must meet specific conditions of SMEs, in particular:

- SMEs do not have any in-house staff; they require comprehensive services that equal the staff performance of large enterprises, which would offset the size-related disadvantages.
- Services must be provided in closeness to companies and accurately according to specific needs.
- Services must be accessed by the SMEs precisely at the point in time when they are really needed. Services and information on stocks are not really helpful to SMEs.
- SMEs suffer from bureaucracy, they are time- and expense-sensitive. All the necessary services must be provided without red tape, from a single source and must be cost-effective.
- Continuous exchange of information, stable foundation of trust, high reliability and continuity are important. This requires a permanent contact person.
- Services must be provided in the language of the SMEs and offer financial benefits to enterprises.
- Services must be of outstanding quality, match individual needs and need to be provided exactly at the right time.
- Services must encompass different areas like business administration, engineering, marketing, human resources, sales, etc. Of prime importance are also measures which promote international cooperation, because they create great potential, in particular for SMEs.

When universities and companies cooperate with SMEs within the framework of dual courses of study, this results in particularly intensive networking, direct technology and knowledge transfer and excellent opportunities for tailor-made research and development work, which is carried out in the company by students supervised by professors and lecturers.

3.2 Promotion of innovation in conjunction with trainings and dual study programs

The innovation capacity of SMEs is most limited by the availability and skills of entrepreneurs, managers and professionals. Due to a lack of skills and entrepreneurs and employees, innovation in SMEs is already much lower than it could and should be. With the exception of Sweden, the number of younger people of working age in all Baltic Sea countries will fall by up to 25% over the next 15 years. At the same time, qualification requirements are increasing; human resource and social skills are becoming equally important alongside specialist knowledge. Improving qualifications and eliminating the shortage of skilled workers are the most important promotional task and the key to sustainably strengthening innovation, competitiveness and growth in SMEs. The realization of further trainings and dual Bachelor's degree programmes, in which the studies are combined with relevant vocational training, makes a decisive contribution to mastering this challenge in order to attract the high demand for junior staff in innovative entrepreneurs, managers and professionals for SMEs and at the same time to emphatically strengthen innovations in SMEs.

3.21 Innovation promotion combined with continuing vocational training

In the project, a structural concept consisting of the following elements is applied for continuing vocational training:

- 2-3 learning phases with classroom teaching, delivered on two days per week, possibly Fridays and Saturdays.
- in between, longer on-the-job teaching periods at the trainees' workplace with simultaneous realization of innovative development projects in SMEs, covering three to four months.
- Proposal for teaching periods at the trainee's workplace:
 - a) coaching by same trainers that are also delivering classroom teaching
 - b) optional and customized e-learning options,
 - c) implementation of a specific development project within the company, in the topic area of the respective advanced training, involving as many employees as possible, thus, ensuring joint team learning.

At the end of the first classroom teaching, one focus is on teaching relevant issues with regard to planning, implementation as well as to (critical) assessment of their own projects that are processed in the second part of the training. Thus, another key objective of this part of the training is to equip the trainee with critical impulses for processing the presented models and instruments in his individual project. In a sense, application and implementation of the presented models and instruments by trainees at their work constitutes the primary focus of the second part of the training concept.

At the beginning of the longer phase of learning on the job, the innovative development project to be realized is defined and prepared in the company. The trainer accompanies the work to realize the development project in the company and involves other consultants and experts as needed. Support by trainers and consultants may vary, from a rather simple general advice in the sense of passing on relevant information up to an in-depth assistance-like coaching. Normally, it is advisable to decide on case-by-

case basis which type of support is best suited to enable each trainee achieving individual project goals.

In another classroom workshop, the third part of the training, experience and insight gained will be presented and exchanged at a joint event, in emphasis on presentation of individual participants' projects. Both, the trainees and the trainers, will be tasked to review and reflect on projects presented by the participants and to analyze answers with respect to a possible contribution to sustainable training target tracking.

During the implementation of the six continuing vocational training programs, the above-mentioned innovation subsidies are to be implemented and tested at the same time. The focus is on the implementation of the innovative development projects. During the course of the project, the trials of the continuing trainings as well as the trials of the innovation support measures will be evaluated.

3.22 Innovation promotion combined with dual Bachelor study programs

Under dual study programs, close collaboration between academia and small medium-sized enterprises is achieved. In that regard, further welcome features are active exchanges of knowledge and experience as well as implementation of manageable research and development tasks for and by SMEs. Students will implement their semester or bachelor's theses at companies where they complete their practical training. They will select topics that are particularly business-relevant, thus ensuring notable benefits to SMEs.

A dual bachelor study program is composed of the following basic elements:

- Admission requirement: higher education entrance qualifications (i.e. A-levels) or advanced technical college certificate.
- Duration: 3 to 4 years maximum (depending on subject).

- About 50% of the educational period as practical training or professional activity in a company. Vocational education takes place in dual form in companies and vocational schools.
- About 50% of the educational period takes place at the university.
- Both parts of the training are coordinated with each other and are carried out in parallel. Theory can be taught in longer blocks (e.g. 3 months) or 3 days a week with shorter additional blocks.
- About 60% of the courses offered at the university are taught by full-time professors and lecturers and about 40% by practitioners from companies.
- The participants sign a contract for vocational education/activity with the company and a contract for study with the university.
- Degree: Journeyman/skilled worker and Bachelor.

The bachelor's degree also entitles the holder to follow a master's program at a university at a later date. However, the aim is that at least 80 % of the bachelor's degree holders should remain in the small and medium-sized business sector as entrepreneurs, managers or skilled workers and, building on their initial bachelor's degree, improve their skills within the context of ongoing continuing education.

The excellent qualifications acquired in the dual study programs are also decisive prerequisites for high innovations. In addition, the participating universities/colleges should also take part in practice-oriented research and development projects for medium-sized companies and thus promote innovations in the long-term. The study programs and innovation promotion are aimed at the identical target group, namely high-performing, medium-sized companies and their management personnel. As companies are always included in the dual study programs, there is direct cooperation between companies and universities, which can be used for knowledge and know-how transfer as well as for research and development work by companies. Re-search and development tasks can be carried out in various ways, for example

- Work as part of semester or bachelor theses of the participants/students

- Targeted individual assignments of the companies or consulting/know-how transfer by professors and teachers
- More complex projects with public funding (especially from the EU)
- Joint work on projects with several companies in one industry (industry association projects)

Universities and companies are training partners in dual study programs. About half of the entire training period takes place at the university and half at companies. Credit points required for the Bachelor's examination are earned both during studies at the university and to a certain extent during training and work in the company. The change of qualification in the university as well as in the company can take place in block form (e.g. three-month blocks) or in daily form. The dual study programs are Bologna-compliant and lead to a recognized Bachelor's degree. The qualification in the company can be combined with a vocational training with the degree "journeyman" or "skilled worker".



The close cooperation between universities and companies in teaching offers optimal conditions for the promotion of innovation by SMEs through universities. The following starting points and funding measures are particularly relevant.

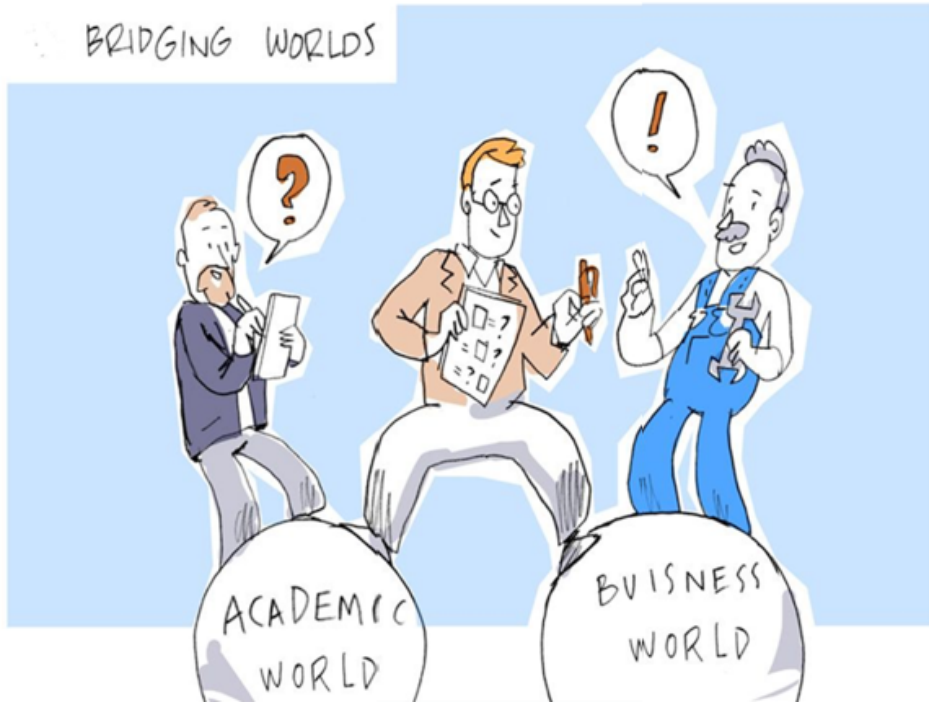
a) The professors and lecturers at the universities must see themselves as equal partners of the companies. They must regularly visit the companies, check their innovation needs, provide advice, transfer new technologies, best practices, etc. and accompany implementation in the companies. The more effectively companies experience such innovation support, the greater their willingness to participate as training partners.

b) In addition to personal exchange and transfer, universities shall maintain a comprehensive written and electronic transfer. For example, regular publication of newsletters, innovation platforms, publications of prepared research results, dialogue forums, etc.

c) Approximately 60% of the teaching at the university is carried out by the academic staff of the university and about 40% by practitioners from the companies. In connection with this, the practitioners should continuously bring the needs, topics and tasks of the companies for innovation development into the research and development work of the universities, so that an SME-specific orientation can be achieved. At the same time, through the participation of practitioners in teaching, entrepreneurial thinking, modern management methods, etc. can be transferred to the universities and thus future-oriented organization, administration, work processes, etc. in the universities.

d) Since the students spend half of their time in the university and half in the company, a personal transfer of knowledge, new technologies, best practices etc. from the universities to the companies can be optimal. Equally intensively, questions, concerns, tasks, etc. can be transferred from the companies to the universities via the students and the work of the universities in research and teaching can be stimulated and shaped in a way that is close to the company.

E



e) Topics and tasks for semester or bachelor theses should be formulated by the participating companies according to their innovation needs, which are processed by the students in the companies after review and approval by the university. This work process is accompanied by professors and lecturers in the companies who advise both the students and the companies on the development work and subsequent implementations. In this way, innovative tasks and manageable research and development tasks in the companies are realized in a targeted manner and without additional costs.

f) For the realization of complex research and development tasks of SMEs, additional financial resources must be obtained. National, but also especially the EU innovation support programs are too bureaucratic for small businesses; the cost of application and project management is in disproportion to the potential outcome of the project and is too much for many companies. Another obstacle to innovation is that SMEs cooperate too little in research and development, in contrast to large companies.

Universities must therefore develop their role as an innovative service provider for the SMEs. They can advise companies on formulating project proposals, or even serve as an applicant's representative and project manager. Industry association projects with several SMEs should also be developed by the universities, applied for funding and carried out by the universities as lead partners.

During the testing of the different dual Bachelor programs, the above-mentioned in-novation subsidies are to be implemented and tested at the same time. The focus is on the implementation of manageable research and development tasks). During the course of the project, the trials of the study programs as well as the trials of the innovation support measures will be evaluated.

3.3 Evaluation Concept²⁶

The aim of this evaluation concept is to survey the "Conducting manageable R&D projects for SMEs" with regard to the experiences of companies, students and scientific institutions. The envisaged differentiation allows the concepts to be adapted to the requirements of the respective roles as necessary in accordance with the feedback received.

For this reason, there is a three-part structure whose questions are each directed to the specific group. In practice, it is planned to take out this evaluation digitally (e.g. Microsoft Forms) in order to enable a corresponding automated evaluation.

The evaluation questions will differ in terms of wording and complexity depending on the target group. Short and essential questions will be addressed to the companies, whereas more comprehensive and complex questions can be addressed to the academic institution. The questions for the students will focus on the training content and its useful application in implementation projects.

²⁶ Prepared by Campus 02 Fachhochschule der Wirtschaft GMBH, Austria

Evaluation by SME.

Please rate the perception of the questions asked from your point of view:

The elaborated solution concept of the project can be transferred to further SMEs

yes no

	Project-specific evaluation:	true	partly true	only slightly true	not true
1	The task in the project corresponds to our specific required problem solution	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	The solution approach in the project is clearly comprehensible to us	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	The results meet our expectations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	The results make a valuable contribution to solving the problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	The results can be easily transferred to operational practice.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Added value for the SME:				
6	The solution concept can be transferred to other problems of the SME	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	The company was able to gain know-how in the project. (methods, solution approaches...)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	The implementation of R&D projects could be practiced.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If the answer was “only slightly true” or “not true” please explain your answer stating the question-number:

.....

Evaluation by student.

Please rate the perception of the questions asked from your point of view:

	Project-specific evaluation:	true	partly true	only slightly true	not true
1	The project was successfully implemented	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	The project proceeded smoothly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	The R&D organization's approach was clear and understandable to me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	There were no difficulties in implementing the solution to the problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	The skills learned can be applied to the project task.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	The project management skills have been sufficiently taught	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	The skills in the technical area have been sufficiently taught	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	The skills in the environmental sector have been sufficiently taught.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	Overall, I feel that I am well equipped for the task at hand	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Added value for the student:				
10	Valuable experience was gained through participation in the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	In the course of participating in the project, methods learned could be applied	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	By participating in the project, I was able to recognize potential for further development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If the answer was “only slightly true” or “not true” please explain your answer stating the question-number:

.....

Evaluation by R&D organization.

Please rate the perception of the questions asked from your point of view:

	Project-specific evaluation:	true	partly true	only slightly true	not true
1	„State of the Art” technology could be used in the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	More complex solution approaches could be chosen in the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Communication with the SME worked well	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Knowledge from the relevant training courses could be used	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	It was possible to explain the solution to the SME in an understandable way	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	The SME is largely able to solve similar problems itself in the future.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Project implementation				
7	The developed problem solution creates added value for the SME	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	The problem solution developed was understood by the SME	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	There were no difficulties in implementing the solution to the problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	A scientific approach could be realized in the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Added value for the R&D organization:				

11	The project enabled a better understanding of the SME perspective to be gained	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	The project made it possible to better understand the "language of SMEs"	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	The project has improved an adapted approach to SMEs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If the answer was “only slightly true” or “not true” please explain your answer stating the question-number:

.....

.....

Train the Trainer Programs

1 Overview

The following Train the Trainer Programs were developed and implemented.

1. Training program for personnel and center management
2. Training for consultants & teachers to use a tool for vocational and qualification counselling
3. Training for teachers to conduct dual vocational training
4. Training for teachers to conduct further training
5. Train the Trainer A Basic Digital Skills
6. Train the Trainer B Advanced Digital Skills
7. Train the trainer program for university lecturers and SME advisors for the implementation of dual study programs and of R&D projects in SMEs

All results (Curricula, teaching material, implementation reports, evaluation concepts and reports), which can be used free of charge without restriction, are published on the project website www.3-loe.eu.

All train-the-trainer programmes were tested with teachers, advisors and university teachers from the eight COVEs, evaluated, revised on the basis of the evaluation results and finalised. The seven completed programmes were transferred to 24 colleges and universities in 14 countries, which will continue to run these training courses after the end of the project so that well-qualified staff will always be available in all countries of the project and associated partners to run the COVEs and implement the support and training measures at a high level of quality.

The training for teachers to conduct dual vocational training is given here as an example.

2 KAIN Method and Train the Trainer Program

2.1 Description of the KAIN²⁷ method and application instructions

A striking obstacle faced by SME is lack of time and permanent overburdening of their owners as well as their impossibility to release employees from work for a longer scope of time to engage them in advanced trainings. There is also particular interest in ensuring that, as far as possible, qualifications offered should match individual skills needs of the employees and, at the same time, address specific SME issues. In response to such demands, a structural concept will be applied in the project, consisting of the following items:

- 2-3 learning phases with classroom teaching, delivered on two days per week, possibly Fridays and Saturdays.
- in between, longer on-the-job teaching periods at the trainees' workplace with simultaneous realization of innovative development projects in SMEs, covering three to four months.
- Proposal for teaching periods at the trainee's workplace:
 - a) coaching by same trainers that are also delivering classroom teaching,
 - b) optional and customized e-learning options,
 - c) implementation of a specific development project within the company, in the topic area of the respective advanced training, involving as many employees as possible, thus, ensuring joint team learning.

The successfully tested and implemented methodological framework (training method) KAIN

- creates a common knowledge base for participants with different backgrounds in training and consulting processes,
- takes particular account of the individual experience of participants,

²⁷ Knowledge Acquisition according to Individual Needs – KAIN

- shows possibilities to change/improve the situation of the participants on site for the pursuit of project goals and change measures,
- sharpens the knowledge of possible needs for change,
- enables those involved participants to design the right measures and implement them correctly, and
- combines qualifications with the implementation of innovative development projects in companies.

KAIN describes the tasks of trainers / consultants to carry out qualifications within the framework of continuing vocational training, to accompany the implementation of company-specific development projects and to enable company employees to carry out change processes under the supervision of external consultants.

The qualification and consulting process is composed of three phases:

1. classroom teaching
2. self-study with external support
3. report and reflection.

The overall aim of the training is to ensure that all participants have sufficient information and knowledge on how the basic training idea can be implemented and pursued under the individual (quite different) framework conditions on site. Hopefully they will gain confidence in the feasibility of change processes.

2.11 Part 1: Classroom Teaching

Duration approx. 2 days

Key objective: imparting knowledge - forming a common ground within the group.

This training module basically consists of a 1.5-2-day workshop, during which participants learn about (usually science-based) models and (conceptually) apply

instruments of project-related research for structuring and solving problems. This is intended to form a common conceptual ground for further training steps. The presented models and instruments (recommended for practical application) ideally form a common framework, mainly to better integrate existing experience of course participants in pursuing their training goals. The participants' experience may complement or modify the research proposals on structuring and solving problems. Such approach enables a desired (conceptual) adaptation of the proposed models and instruments to the individual participants' needs and specificities (given the diversity of their situations) at an early stage of the training.

Observance of the participants' individual needs and specificities in classroom training requires a high degree of expertise and experience by trainers, including their ability to use interactive and participant-oriented didactic methods.

Another addressed focus in the first part of the training is communicating to the trainees' relevant issues with regard to planning, implementation as well as to (critical) assessment of their own projects that are processed in the second part of the training. Thus, another key objective of this part of the training is to equip the trainee with critical impulses for processing the presented models and instruments in his individual project. In a sense, application and implementation of the presented models and instruments by trainees at their work constitutes the primary focus of the second part of the training concept.

Tasks of the trainers/consultants:

This consideration of the individual needs and particularities of the participants on site in a face-to face training requires a high degree of knowledge and experience with the use of interactive and participant-centered didactic methods on the part of the trainers.

A further focus of the first part of the training is to introduce the participants with the planning, implementation and also (critical) evaluation of their own project, which is to be dealt with in the second part of the training. Thus, another central goal of this

part of the training is to give the participants important impulses for the implementation of the presented models and instruments in their own project. The application and implementation of the presented models and instruments by the participants "at home" is, so to speak, the focus of the second part of the training concept.

2.12 Part 2: Self-study in own company/organization with the support of trainers

Duration approx. 12 – 18 weeks

Key objective: transfer and practical application of acquired knowledge in the trainees' individual job practice; special role of the trainer as consultant and coach.

In the second part of the training, trainees are tasked to apply skills and knowledge acquired in the first part of the training with respect to their individual job practice at their company/organization, in line with the training idea. For a sustainable learning effect, it is crucial that trainees plan, implement, evaluate, document and critically reflect on their own project or their own activities with regard to improving their individual situation, basically under their respective "here-and-now" conditions.

This course phase is accompanied and assisted by trainers and their technical advice and support. Basically, trainees are on their own with respect to applying and implementing knowledge acquired in Part 1. As a rule, however, advice and support are usually required in order to properly enjoy the benefits of adaptive process of newly acquired knowledge from the training Part 1, now under real-life conditions, and to turn the project into success. Support by trainers may vary, from a rather simple general advice in the sense of passing on relevant information up to an in-depth assistance-like coaching. Normally, it is advisable to decide on case-by-case basis which type of support is best suited to enable each trainee achieving individual project goals.

At this stage, it is certainly possible, if not uncommon, that in processing the models and tools presented in Phase 1, the trainees' projects may differ from their initial

concepts and plans. In such case, trainers may lend a helping hand in bringing back on track “real” project goals.

The second part of the training has a particularly welcome didactic attribute, allowing for fine-tuning improvements on the job / in one’s own company, thus, ensuring high learning motivation. As a rule, this type of learning, embedded in real job conditions, involves committed personal involvement of company management and other employees, and, by joint team learning, delivers expressive multiplier training effects.

Further advantages are straight implementation of the acquired new knowledge in daily job operations; project-related innovations are in the interest of corporate management; they become quickly tangible, and managers feel encouraged to continue with advanced trainings for their employees, turning them into a strategic instrument of corporate management. Apart from this, this training approach meets particular needs of SMEs, which biggest barrier to good training is their lack of time. Under KAIN training method, lost working hours and work absences are almost entirely avoided.

In the second part, the participants have the task of applying the knowledge acquired in the first part and the knowledge of how to shape their own practice in the sense of the training idea in their companies/organizations. For a sustainable (learning) effect it is necessary that they plan, implement, evaluate, critically reflect and document their own project or activities to improve a situation on site under their individual framework conditions in the "here and now".

This phase with the duration of approx. 12 – 18-weeks is accompanied and supported by professional advice and support from the trainers/consultants.

Tasks of the trainers/consultants:

At the beginning of the longer phase of learning on the job, the innovative development project to be realized is defined and prepared in the company. The trainer accompanies the work to realize the development project in the company and involves other consultants and experts as needed. The support of the trainers can range from a rather simple general consultation in the sense of passing on relevant information to

an intensive accompaniment in the sense of coaching. In individual cases, it is usually necessary to consider what kind of support is needed to enable the individual participant to pursue his or her individual project goals.

In this phase it is quite possible and not uncommon that when applying the models and instruments presented in phase 1 in practice, the individual project proceeds differently than initially thought and planned by the participant. Even in such situations, the trainers of the project team can provide valuable support in pursuing the "actual" project goals.

This second part of the training enables in particular the very welcome didactic aspect of working on concrete improvements in one's own company / at one's own workplace, which is associated with a high motivation to learn. In this learning process, the company management and other employees are usually intensively involved in what is actually done at the workplace, thus achieving joint learning and strong multiplication effects in the training.

Further advantages are that what has been learnt is directly implemented in everyday business life, that the innovations associated with project work are in the interest of company's management, quickly become visible and motivate managers to promote further training for the workforce and to use it as a strategic instrument of company management. It also responds to the particular needs of small and medium-sized enterprises, which are constantly suffering from a lack of time as the biggest obstacle to training. The KAIN Training Method generally almost completely eliminates absenteeism.

2.13 Part 3: Individual project presentation and reflection

Duration approx. 1.5 – 2 days

In the third part of the training, experience and insight gained will be presented and exchanged at a joint event, in emphasis on presentation of individual participants`

projects. Both, the trainees and the trainers, will be tasked to review and reflect on projects presented by the participants and to analyze answers with respect to a possible contribution to sustainable training target tracking. Moreover, a further key goal may help identifying major barriers to “not-yet-a-success” and fix them in the future.

The exchange of information amongst participants may provide valuable information on how to improve their own projects to be even more successful.

Tasks of the trainers/consultants:

- enable constructive exchange between the participants,
- focus on the common basis for the pursuit of (general) training objectives, and
- moderate an instructional discussion on the identification of supportive, ideas on struggle-free implementation solutions for trainees` projects, and
- obstructive conditions of change processes and present contributions for a possible reduction of resistance in the tracking of individual projects.

Of course, upon completing third part, subsequent longer self-study phase may follow, combined with on-the-job implementation, followed again by classroom-teaching in form of a third workshop, etc.

At the end of the training, all participants should have sufficient information and idea on how to implement and pursue the basic training idea, mostly under different real-life conditions.

2.14 Time-organizational setup and competencies of participants

For sure, a truism that in a large-scale transnational project, participants from different countries would never be able to match their time frames to enjoy joint meetings and events. Yet, planning and delivery of training to a specified target group and their participants, requires that

- participants of Part 1 are in, any case, also participating in training Part 3. Where appropriate, couples or small teams should be made available as representatives of a project team with respect to these training parts,
- participants are experienced in presenting content or in using interactive training design methods, or they are trained to meet required demands,
- participants are to a certain degree involved in decision-making or co-determination in their company/organization with respect to pushing through their projects and receiving appropriate support from senior management.

2.15 Instructions for trainers/consultants on planning and using KAIN

The selection of companies/persons for the training and consultations depends on the interests of the companies. In an active approach, a pre-selection can be made on the basis of individual criteria, e.g. sector, company size, state of technology use, quality of personnel policy, innovation orientation, ..., i.e./with other words the maturity level of the organization.

The size of the group should not exceed more than eight and not be less than three or four companies. Enterprises may be allowed to send more than one person (project group). The total group should not exceed more than twelve persons.

The persons from the companies should have the right to make decisions or have a say in their organizations in order to be able to decisively advance the pursuit of their individual projects.

The participants should decide at the end of part 1 to carry on with parts 2 and 3. Otherwise resources will be wasted. If there is a fear that problems will arise in part 2, it will be better to do a small project for testing rather than too many or too large projects. And: Even from failed projects something can be learned.

The companies can exchange their ideas and experiences during the development phase, e.g. develop measures together.

At various points in the brief description of the training method it became clear that the trainers have a special role to play in the use of this method, which is underlined here again.

In general, the trainers/consultants should have experience in presenting content and using interactive methods to design training.

Against the background of an overview knowledge covering all relevant subject areas the trainers are not only representatives for a variety of project topics and contents, but also –from a didactic-methodical point of view – moderators, learning (process) facilitators, coaches, sometimes co-managers, consultants, and even learners.

In individual cases, they must also decide in what form the involvement of experts and specialists on a (detailed) topic is necessary for highly specialized topics. This requires a good network.

A special challenge for the trainers is when they are in the role of a coach, who may also have to provide individual support for the learning processes of individual participants in the pursuit of a project on site.

Within the framework of a Train the Trainer program for teachers to conduct further training, teachers are familiarized with the KAIN method and taught skills for its application.

Within the framework of the project, the KAIN method is used to teach competences and at the same time implement innovative development projects in the following further vocational training courses:

- A Preparation and management of SMEs for work in the Green Economy
- B Waste reduction and recycling management
- C Wastewater treatment and recycling management
- D Water supply and water saving
- E Cradle-to-Cradle in SME
- F Energy generation from wastewater and waste

During the implementation of the six continuing vocational training programs, the above-mentioned innovation subsidies are to be implemented and tested at the same time. The focus is on the implementation of the innovative development projects. During the course of the project, the trials of the continuing trainings as well as the trials of the innovation support measures will be evaluated.

2.2 Training and Coaching Process

2.21 Principles of effective Teaching²⁸

What makes the training program successful?

The purpose of the training program is to impart knowledge of principles of effective teaching and effective training techniques and their application in SMEs. Participants may have worked with something like resource efficiency, material efficiency, resource or material saving, environmentally friendly technology before, so they have a solid background on which to build. When is the training successful? To achieve the success criteria the training should have a clear agenda of the topic to be covered, well defined target group, have enough time to the planning, have well defined pro-gram specific learning outcomes, have teachers, instructors or presenters who are familiar with the topic, involve participants, have organizational support systems for the very first steps of the training, use quality measurement system (based on evaluations, feedback analysis), etc. The list is long and demanding and organizing training pro-gram may be a real challenge.

One of the key success factors is the trainer, mentor, coach or instructor, no matter which is applicable to the train the trainer sessions. Bwika has identified the following attributes of a good instructor:

- Competence in subject matter

²⁸ See Sandelin, Sirpa: PROGRAM FOR TEACHERS TO CONDUCT FURTHER TRAINING, Satakunta Uni-versity, Pori 2021

- Mastery of the techniques of instruction and evaluation
- Desire to teach
- Resourcefulness and creativeness
- Attentiveness to trainee needs
- Management techniques in classrooms
- Professional attitude
- Ability to develop good personal relations

Training process

Training course design and organization includes several phases. The training design models ADDIE consists of five phases, ie. analysis, design, development, implementation and evaluation. Analysis deals with analysis, where the need for the training is studied in detail. In the designing phase the training program is outlined and planned. In the development phase the training is rolled out to the field in the form stipulated in the design phase. The final phase evaluation concludes the process and measures how effective the training program was at achieving its goals. The detailed information with examples can be found from the page The ADDIE Model Infographic <https://elearninginfographics.com/the-addie-model-infographic/>.

Training session should respond to the participants learning styles. In general, there are three types of learners:

- Visual: These learners receive information best through seeing or reading it. This type of learners benefits from written instructions, diagrams, handouts, over-heads, videos, and other visual information.
- Oral: Oral learners receive information best when they hear it. They respond best to speakers, audio conferences, discussion groups, etc.
- Kinesthetics: These learners learn by touch and feel. They respond well to demonstrations and in having the chance to practice themselves.

Trainees are individuals. Sometimes trainers may encounter themselves in a demanding position with difficult participants. Table 1. gives some strategies to cope with difficult participants.

Table 1. Ways to survive with difficult participants (Swan and Morgan 1993, cited in Assistive Technology Trainer’s handbook, <https://www.natennetwork.org/wp-content/uploads/at-trainers-handbook.pdf>, p. 86-87)

Behavior	Possible reasons	Strategies for presenters
The aggressor		
Confrontational, challenging and unpredictable. May include direct confrontation or constant “supportive” criticism of present ideas.	Need to win. Desire to be the leader. Need to control the group or the outcome of the training.	Remain calm – do not engage in the confrontation. Ask for explanation and clarification of concerns. Seek feedback from other participants. Redirect the conversation back to content. Model ways to permit differences of opinion to stand. Use humor. Be friendly and relaxed. As a last resort, discuss the behavior in private during a break.
The isolate		
Does not participate or frequently leaves the session for other activities such as phone calls.	Anxious about speaking. Unsure of own knowledge. Unwilling to commit to the work. Insecure about working with others.	Ask questions that require yes, no or very short answers to get things started. Offer activities for pairs or very small groups.

	<p>May not want to be in the workshop.</p> <p>May have pressing needs than the content of the training.</p>	<p>Assign each person in the workshop specific task to be reviewed by the presenter or other participants.</p> <p>Ask questions that are about the isolate's areas of expertise or strengths.</p> <p>Work with the person one-to-one or ask about the reasons for non-participation.</p>
<p>The negative</p>		
<p>Responds negatively to any new idea or task. Refuses to try new ideas or to consider them.</p>	<p>Poor self-concept.</p> <p>Lack of faith in ability to do the work.</p> <p>Has been required to attend the training.</p>	<p>Stay positive.</p> <p>State your perceptions of the situation in positive ways.</p> <p>Do not argue.</p> <p>Do not problem solve for the person.</p> <p>Brainstorm with the large group about ways to address the negative aspects that person identifies.</p> <p>“What would it take...”</p> <p>Ask the group to reserve judgement until the end.</p> <p>Ask what part of the topic could be adopted.</p>

The monopolize		
Talks for long periods. Interrupts others. Repeats concerns frequently. Tries to speak first. Does not listen.	Insecure about participation. Insecure about own knowledge base. Need for attention. Need for approval from the presenter or the group. May be naturally talkative. May desire to be in charge of the outcome.	Odder activities that require turn taking and multiple speakers. Offer activities that require each person to respond or pass. Encourage participants to offer feedback to each other rather than in the large group. Provide a time limit for comments and questions that everyone in the group must abide by.
The expert		
Says that s/he already knows the content. Talks a lot. Volunteers to help the presenter. May offer incorrect facts.	Seeking respect and acknowledgement from other participants. Seeking approval or connection with the presenter.	Ensure opportunities with others. Spend a break or part of a lunch with the person.

Presentation skills

When planning a training session, trainers should pay attention to what trainees' remember from it. Estimated learning takes place:

- 10 % of what they read
- 20 % of what they hear
- 30 % of what they see

- 40 - 50 % of what they see and hear
- 50 % of what they discuss
- 70 % of what they experience
- 90 % of what they say as they do

Trainers should engage participants in thinking, questioning, and experiencing themselves. Thus, trainers should not speak all the time alone, because effectiveness of learning decreases very soon, if participants are not integrated in the training.

Icebreakers

In the beginning of the session, it is important to get participants involved and engaged in an activity that requires them to talk and cooperate with the others. Ice-breakers are the simple activities used at the beginning of a session to help participants learn each other's names and/or backgrounds, share their experiences, or introduce the topic of the lecture. The right icebreaker can help to get a positive and enjoyable learning experience for both the trainer and the participants. During the ice-breakers participants should connect with at least one other person. Icebreakers should be topic related and at low risk so that participants would feel comfortable and easy. Time used for icebreakers should not be too long compared to the length of the session.

Presentations

The presentation (e.g. PowerPoint™ or Prezi (Prezi.com)) is used to support the content of the training and thus it should be clear and easy to read. The presentation is designed to be a visual support for both the trainer and the participants.

- Assistive Technology Trainer's Handbook <https://www.natennetwork.org/wp-content/uploads/at-trainers-handbook.pdf>
- Presentation Skills Training Resources and Articles <http://www.businesstrainingworks.com/training-resources/presentation-skills-articles>
- How to create effective training materials <https://www.hpandt.com/how-to-createtimeeffectivetrainingmanuals.pdf>

Figures, Tables and Videos

In order to improve the attractiveness of the lecture and the presentation it would be advisable to include figures or tables or videos into the presentation/ the lecture. Figures and tables illustrate the situations well and thus make it easier for the participants to assimilate the gained information. Presentations of success stories and case studies can be also included to this section. Internet and YouTube offer good opportunity for researching suitable videos.

This toolkit is a training program which can be delivered by experienced trainers / facilitators, with expert knowledge and skills in facilitating.

http://www.knowledge.scot.nhs.uk/media/6866097/trainthetrainers__final_.pdf

Free training resources <https://www.trainingcoursematerial.com/free-training-resources>

Attitude awareness, motivation and engagement

According to the BJ Fogg Behavior Model, people take action when their motivation and ability to complete a task are both high and there is a triggering element (Figure 1). Behavioral changes will be expected during training if all three elements are pre-sent at the same time.

The model highlights three principal elements and their subcomponents:

- Core Motivators (Motivation): pleasure/pain, hope/fear, social acceptance/rejection; sensation, anticipation, belonging
- Simplicity Factors (Ability): time, money, physical effort, brain cycles, social deviance, non-routine
- Triggers: facilitator, spark, signal

In the planning and implementing training sessions trainers have to create and keep the high motivation level, give skills to do things easier, and give something that calls to action. Training should give a positive learning experience and a feeling of a victory.

Attitude can be dealt in different ways during the training. Depending on what type of attitude question we have the solution of influencing into the attitude is some-what different. Is there a need for attitudinal change, future oriented attitude, more positive attitude or an attitude that can see the comparative advantages? The training course objective should be created in a way that it emphasizes the nature of attitude change. Change should be seen both in participants' own attitude and in the attitude in SMEs to gain comparative advantages. Also, the importance of the concept in a global scale should be emphasized.

Effective training and learning relay on motivation. Trainers face challenges in making the lectures more interesting and motivating. Unfortunately, there is no single answer how to motivate participants. Trainers are advised to accommodate different learning styles, like visual, oral, or kinesthetics, during their training sessions.

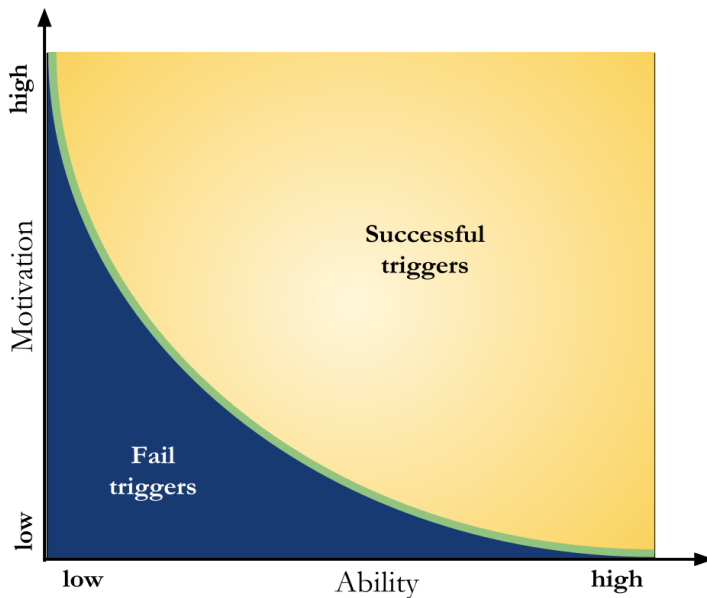


Figure 1. The BJ Fogg Behavior Model (According to Goodmanguy - Own work, CC BY-SA 4.0, <https://commons.wikimedia.org/w/index.php?curid=58335488>).

When implementing the Training trainers should consider how they can translate theory into practice. Experimental learning is very powerful when trainers can combine participants' own experiences with the training program contents.

There are a range of exercises the trainer can effectively use in order to involve in the participants as much as possible to the learning process. The best way for adults to learn is when the new course material is based on their experiences, but when there is also left space for the debate among the participants. Many participants are experienced personnel who have valuable information to contribute. There are varieties of training methods and together they can give the possibility for a multi-faceted understanding of the course material.

One way to activate trainees is to include storytelling in the training sessions. Stories may make communication easier and insert personal touches in the sessions. Stories can be used as examples of right and wrong ways to perform tasks or skills. They could be used to activate participants to find different views on the topic. Trainers should also give floor to the participants' own stories.

There are several ways trainers can use to engage your audience throughout the training sessions:

- interesting materials, which will be used after the training, too pair or group discussions, involve participants in one way or another
- case studies and examples from real life situations
- role plays are excellent for example in supervisory, mentoring or coaching situations
- demonstrations, videos, material samples, process simulations, etc.,
- Training methods: a review and analysis https://www.researchgate.net/publication/274980945_Training_Methods_A_Review_and_Analysis
- The Trainer's Survival Guide has 25 different activities that make lecture-based programmers more active. They can be used during the training session, and they have tips for the trainer to get participants involved. <http://www.leotrainee.com/tactiveteach.pdf>

- 10 Storytelling Tips for Powerful Messages in ONE-hour https://ec.europa.eu/regional_policy/sources/informing/events/2511-virtual/melissa_rancourt_inio_meeting.pdf

2.22 Effective Training Techniques

The second part of this pedagogy deals with mentoring and coaching, spreading best practices, learning from the worst cases, effective questioning and appreciative inquiry, and creativity and innovations. There are several links to different kind of document, reports and videos about how to improve the training sessions.

Learning involves acquiring new knowledge, skills and attitudes that result in change in participants' ability to do something, i.e. in this Train the Trainer program the ability to apply effective training methods. The components in learning process include knowledge acquisition, thinking for understanding and doing in practice.

Group work and brainstorming

Group works can be applied in learning if the trainer wants participants to deal about the issue by debating and discussing. Group work in small groups gives all participants the opportunity to participate in the exercises and thus express their ideas. In order to get the best out of the group works would be good to get them goal orient-ed. The participants should understand the task of the group work at hand, the timeframe and the way of presenting the results.

In brainstorming the trainer asks an open-ended question and the participants come up with as many solutions as possible. The idea of brainstorming is to get participants involved and engaged in the training. Brainstorming should be based on few rules in order to get the best results. Example of the rule could be that there are no stupid or bad ideas.

- Trainer's Handbook, Assistive Technology Trainer's handbook <https://www.natnetwork.org/wp-content/uploads/at-trainers-handbook.pdf>
- MindTool Brainstorming <http://www.mindtools.com/brainstm.html>

Mentoring and coaching

The EMCC glossary gives the following definition to coaching and mentoring: "It is a professionally guided process that inspires clients to maximize their personal and professional potential. It is a structured, purposeful and transformational process, helping clients to see and test alternative ways for improvement of competence, decision making and enhancement of quality of life. Coach and Mentor and client work together in a partnering relationship on strictly confidential terms. In this relationship, clients are experts on the content & decision-making level; the coach & mentor is an expert in professionally guiding the process".

Mentoring can be described as partnership between two people working in a same field or sharing same experiences. A mentor is a person helping the mentee to develop solutions to career related issues. Mentors should be helpful and get the mentee to believe in him/her while boosting his/her confidence. A good mentor also challenges and questions mentee, but in the meantime provides guidance and encouragement. The most important meanings of mentoring are to enable others to become more self-aware, to make them take responsible for their life and to direct their life in the direction they decide.

Coaching focuses on the individual needs of a person and is generally less formal than other kinds of training. A manager, supervisor, or other employees serve usually as the coach. The coach works with the employee being coached when time allows and works with this employee to answer questions, make suggestions, leads to right track, and gives support and feedback. The differences between coaching and mentoring are shown in Table 2.

Table 2. Differences between coaching and mentoring (<https://www.usgs.gov/media/files/coaching-vs-mentoring-25-ways-theyre-different>).

Coaching	Mentoring
Task oriented	Relationship oriented
Short term	Long Term
Performance driven	Development driven
Can be done as needed; no design necessary	Program design needed to create effective program
Manager directly involved	Manager involved only indirectly
More easily evaluated and measured for ROI	Less easy to measure for ROI
Reliance on performance management systems, e.g. reviews, 360's etc.	Not dependent upon performance management systems
Feedback by coach to manager about progress in development	No feedback by mentor to manager
Coach paid for services	Mentor receives no compensation
Coach operates independently	Mentors operate with assistance from the Mentoring Program Manager
No training of coaches needed	Mentors and mentees trained
Focus is more on business issues than personal	Focus is on personal and professional development
Lower initial investment cost	Higher initial investment cost (lower over time)
Lends itself to online software	Management of the mentoring program lends itself to software but not the relationship itself
Coaches leave organization when done	Mentors and mentees remain in the organization and can provide ongoing mentoring to others

Done by inside or outside content expert	Mentors are normally within the company
Can be done for remedial purposes	Never remedial
Internal politics not usually affected	Internal politics a consideration in program design
Cultural change may/may not occur	Mentoring is transformational and affects the culture
Diversity may or may not be included	Diversity is a component of mentoring
Coaching done 1-on-1	Mentoring most often is done 1-on-1 but other models may be used as well
Content expertise more important in coaching	Interpersonal skills more important in mentoring
Manager can be coach of own employee	Mentor is outside mentee's direct supervisory line
Coaching is one-directional	Mentoring is bi-directional
Coaching is focused on the business person	Mentoring involves the whole person
Behavioral transformation	Personal transformation

- Information on business mentoring, successful mentorship and the benefits of mentoring can be found from the Website <https://www.micromentor.org/>
- Videos: <http://mentoring-works.com/resources/videos/>

Effective questioning and appreciative inquiry

Learning can be promoted by effective questions. By questions trainers can motivate participants, keep their interest on the key issues, and engage them in the learning process. Questions can also be seen as means of fostering knowledge sharing and creation among participants. Should you be worried if participants do not have questions? Yes, you should. In the beginning of the session's trainer should encourage participants to ask questions. There are no silly questions. If there are no questions from the audience,

pose them a question. If you do not know the answer, ask help from the participants. Someone from the audience might know the answer. Of course, you can always give links to Internet sites with further information.

In the SMEs problems can be solved by using the 4D-model or 5D-model. The four common phases are:

- Define: you have to know the current situation and its positive aspects
- Discovery: analyze what works well currently
- Dream: dream vision of what is the bright future, brainstorm creative and innovative ideas
- Design: build the dream, plan systems, processes, and strategies
- deliver, which is the implementation towards the dream.

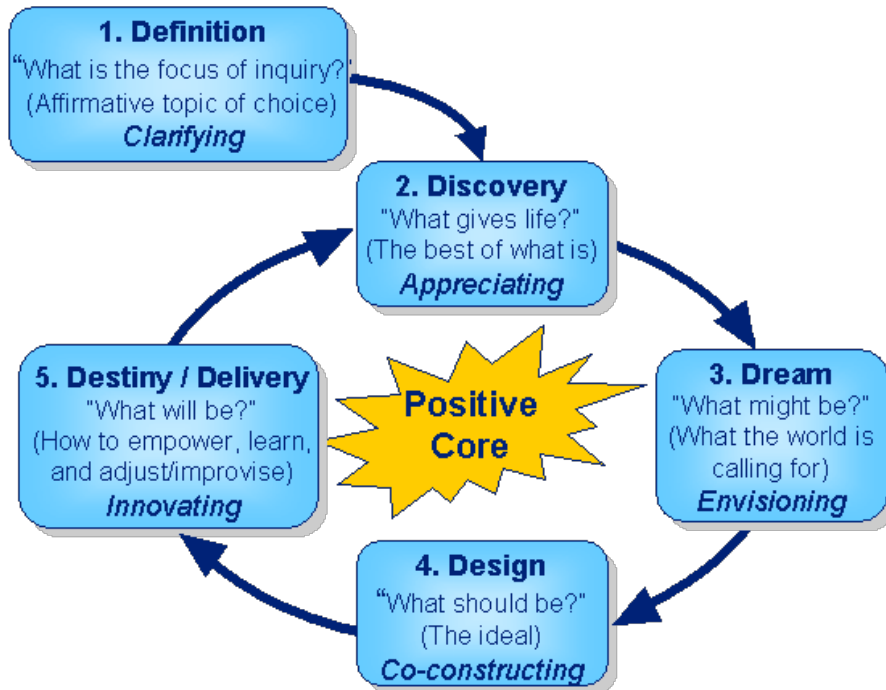


Figure The 5-D Cycle of Appreciative Inquiry http://www.metavolution.com/rsrc/articles/whatis_ai.htm

- MindTools Appreciative inquiry http://www.mindtools.com/pages/article/newTMC_85.htm
- Center for Appreciative Inquiry <http://www.centerforappreciativeinquiry.net/>

Best practices and worst cases in knowledge creation and sharing

Best practices can be defined as “practices that consistently show results superior to those achieved with other means”. (European Commission report on best practices p.17) Best practice examples can be used as a support and example during the training session. Good examples can be asked from participants.

- Small Business Act - Database of good practices <https://ec.europa.eu/growth/tools-databases/sme-best-practices/SBA/index.cfm?fuseaction=welcome.detail>
- Enterprise Europe Network, Success stories <https://een.ec.europa.eu/success-stories>

Worst cases can be defined as “: involving, projecting, or providing for the worst possible circumstances or outcome of a given situation” (<https://www.merriam-webster.com/dictionary/worst-case>). During the training session worst cases can be helpful to the participants in order to help their planning of the future expenditure cuts and contingency in their businesses. Unfortunately, examples from the worst cases are not easily found.

Experiences from a real working life and companies should be included in the training programs. During group activities possible solutions for the acute changes could be developed.

Foresight methodology: https://www.interregeurope.eu/fileadmin/user_upload/tx_tevprojects/library/file_1553867970.pdf

Creativity and innovations

Creativity and innovations are closely related to the productivity in SMEs. European Commission promotes innovations in SMEs, like technological breakthroughs, new processes and business models, non-technological innovations and innovations in the services sector. Creativity, use of new knowledge and capturing tacit knowledge will strengthen productivity of SMEs. When knowledge is transferred effectively, new product, process and service innovations have a change to be invented.

- European small business portal has gathered together all the information provided by the EU for SMEs, ranging from practical advice to policy issues. http://ec.europa.eu/small-business/index_en.htm
- European Commission, Innovations http://ec.europa.eu/growth/industry/innovation/index_en.htm
- MindTools Creativity tools http://www.mindtools.com/pages/main/newMN_CT.htm

2.23 Digital Training and Learning Tools

Technology plays a fundamental role in the processes of train the trainer education and learning. Digital training and learning tools can be used in several ways to support the teaching and learning process. The number of digital tools available is huge, so only a couple of the main type of applications will be presented. The role of these tools is to give autonomy to the trainee and encourage trainees to collaborate with other trainees and facilitate communication with the trainer and trainees. Digital tools can be used in multiple ways via mobile devices. With train the trainer process technology will give much wider ways to conduct training sessions, to be integrated as supplement tools in

face-to-face teaching or to support mentoring or coaching process either online or of-line.

Pedagogy in digital environments

When utilizing digital training and learning tools, the pedagogical approach has to be rethought. All three forms of knowledge, i.e. content, pedagogy, and technology, have to be considered simultaneously in unique contexts as shown in Figure 3. Since train the trainer courses differ from the level of trainees, the cultures and lecturers, each course is unique. Traditional training events are unique too, but the complexity of training with digital tools brings more pedagogical challenges. Transition to the use of digital training and learning tools means much more than just transfer of materials and activities to the digital environment.

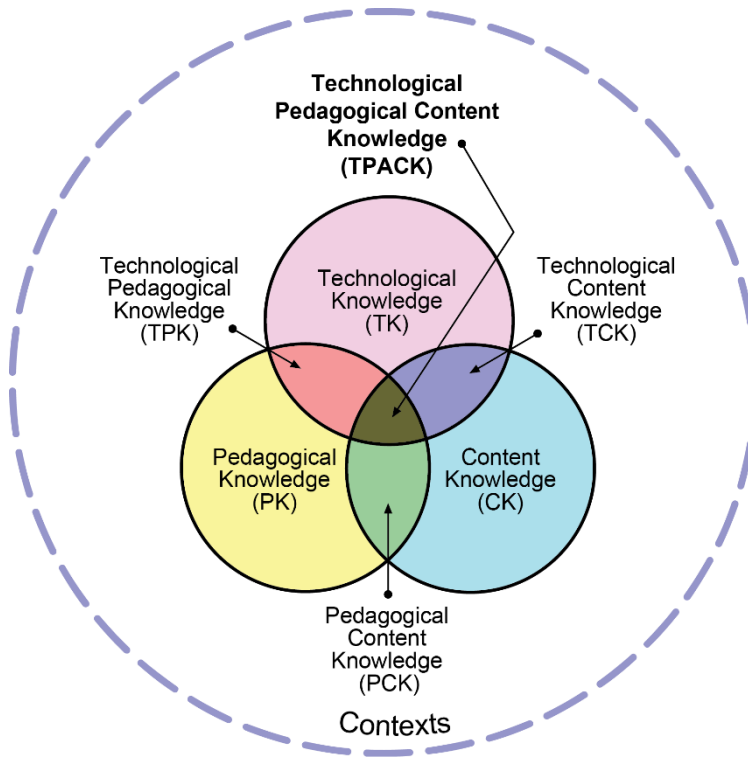


Figure 3. Components of TPACK (© 2012 by tpack.org, <http://tpack.org>).

Examples of learning platforms and tools

Some of the learning platforms and tools are shortly presented here. Tools enable not only online video meeting, but also managing daily tasks and storing documents in cloud services. Tools work as well as well on mobile devices and desktops or laptops. The following platforms and tools are only examples from different kinds of applications, and freer and fee paid versions and applications are on the Internet.

Moodle is an open-source learning management system (<https://moole.org/?lang=fi>).

The platform works in several languages.

Hubs for meetings and conferencing, chatting and collaborations are i.e. Microsoft Teams (<https://www.microsoft.com/en-us/microsoft-teams/group-chat-software>) and ZOOM (<https://zoom.us/>).

Collaborative tools offer versatile visualization tools for collaborative knowledge building. Visual thinking tools are applicable in various business and training cases, such as project planning, meeting management, brainstorming, idea management, knowledge management, and note taking. Participants can simultaneously create content and new ideas or create mind maps. Some examples of collaborative tools are Flinga whiteboard (<http://www.nordtouch.fi/>), Miro (<https://miro.com/>) and Padlet (<https://padlet.com>).

Kahoot! is a game-based learning platform for creating, sharing and playing learning games or trivia quizzes (<https://kahoot.com/>).

Online feedback can be collected by many different platforms. E.g. some of the collaborative tools enable anonymous input and can be modified to be used in collecting the feedback. More sophisticated tools, for example Google Forms and Microsoft Forms, enable conducting a survey and importing the results to the Excel or other spreadsheet program to be analyzed.

Tools that are particularly designed to collect feedback are for example SurveySparrow (<https://surveysparrow.com/>), GetFeedback (<https://www.getfeedback.com/>) and Gainsight PX (<https://www.gainsight.com/>) that is particularly designed to catch user feedback from digital platforms, applications and services.

Concerning the educational purposes there are several free web tools that can be used to gather feedback from students. Feedback can be both formally and informally. It is also possible to use these tools to poll students about a learning event, assess their level of comprehension, or simply to get to know their opinions about a certain topic. Some of these tools will be listed below:

- Poll Everywhere (<http://www.poll Everywhere.com/>)
- Kwiqpoll (<http://kwiqpoll.com/>)
- TodaysMeet (<http://todaysmeet.com/>)
- SimpleMeet Me (<http://www.simplemeet.me/#>)
- Urtack (<https://urtak.com/>)

Each tool has its own properties and particular purpose it has been designed for. Thus, it could be a good idea to get known with several tools before choosing the one to be used just in the case on hands.

- Digital pedagogy <https://www.tuni.fi/tlc/en/planning-and-implementation-of-teaching/digital-pedagogics/>
- Digital pedagogy toolkit <https://www.jisc.ac.uk/full-guide/digital-pedagogy-toolkit#>
- Hybrid pedagogy <https://hybridpedagogy.org/>
- Pedagogics in digital learning <https://unips.fi/pedagogics-in-digital-learning/>
- Automatic feedback in online learning environments: A literature review <https://www.sciencedirect.com/science/article/pii/S2666920X21000217>

2.24 Coaching Process

The entire training from the first approach of the participants to the execution of the test and the end of the training must be accompanied by individual coaching, which is particularly intensive in phase 2 of the training. Within the scope of the coaching, all relevant subject areas must be covered, for example, consultations with the participants and the participating companies, transfer of know-how and information, determination of needs and implementation of follow-up training, referral to experts, organization of information and experience exchange, etc., up to assistance with personal questions or problems.

The words “coaching” and “consultation” are often used interchangeably. However, strictly taken, these concepts imply very different notions. Coaching focuses on a goal- and results-oriented process which helps clients to find their own solutions. It is therefore understood as a method that enables those facing special (often professional) challenges or problems to manage them (largely) independently. Due to this self-understanding, it becomes clear that a coach is not an advisor or consultant answering the questions of the person seeking advice, but a coach enables the client, through certain questions and techniques, to ask the “right” questions and find the answers by him or herself.

The task of consultants or advisers, on the other hand, is to answer specific questions of the person seeking advice as an expert on the topic. Hence, the solution or answer to the question of the advice seeker is given by another person, implying that the person seeking advice does not need to further investigate the issue.

Nevertheless, there are some common characteristics of the two processes:

Profound expertise and professionalism: usually acquired through university studies, training and with extensive professional experience

Reflexivity: Here understood as a systematic and well-founded thinking about one's own actions and activities as well as the structures and processes with which one pursues a goal.

Value orientation and positive image of man understood here as an appreciation and recognition of the diversity of personalities, a personality's dynamics and changeability
Working in and with networks: as a necessary condition for pursuing goals and increasing professionalism.²⁹

As part of the project, due to the complexity of challenges and issues faced by participants and SMEs, it can be assumed that there will be no clearly defined border between coaching or counselling support from the coaches/advisors. Both can be appropriate, important and necessary depending on the case. Therefore, consulting or coaching is seen in this context as an interactive process in which both, the strong support of the consultant or coach and active participation of the person seeking advice, is of immense importance for solving the problem at hand.³⁰ Within the "3LOE" project, this process should be based on the "Case Management Model" increasingly used in the realm of social work.³¹

Case management is an extremely complex and intensive process carried out together with the advice seeker. It is always on a voluntary basis and requires the consent of the person seeking advice. Cases in which a case management structure is worthwhile are particularly complex problem situations for whose solution a large number of helpers from different areas is required. This also means that multiple coaching sessions will be necessary. Furthermore, setting up case management structures is a time-consuming and labor-intensive process. Therefore, it cannot be expected that the

²⁹ Cf. <https://www.unternehmer.de/management-people-skills/128418-die-coaching-serie-teil-i-was-istcoaching-ueberhaupt> or <https://www.unternehmer.de/management-people-skills/131706-die-coachingserie-teil-ii-wo-liegen-die-grenzen-von-coaching>

³⁰ Cf. Nußbeck, Susanne (2010). Einführung in die Beratungspsychologie (2. Ed.). München: Reinhardt

³¹ Cf. Müller, Matthias (2016). Case Management in der Migrationsberatung für erwachsene Zuwanderer (MBE) – Eine Arbeitshilfe (1. Ed.). Berlin: Deutscher paritätischer Wohlfahrtsverband Gesamtverband e.V.

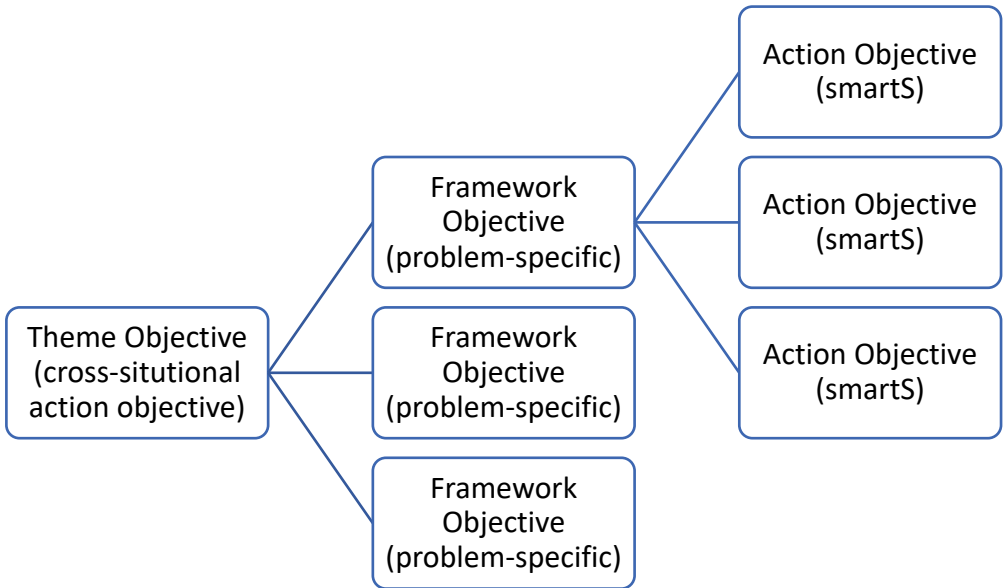
advisors/coaches of the project participants will fully implement this concept. Nevertheless, it should serve as a suggestion for structuring the coaching process.

The case management process is divided into two levels: the case level and the (care) systems level. At case level, the case manager focuses on the person seeking advice. First, the case is assessed. In this phase information is collected comprehensively, systematically and without judgement or evaluation. The next step of this phase is a conscious decision which problem should be worked on made jointly by the case manager and the advice seeker. Once this decision has been made, hypotheses are formulated to come up with different explanations for the selected problem. These hypotheses facilitate the formulation of action goals in the next phase. In the case of this project, the selected problem should be the desired self-employment as entrepreneur. Furthermore, it is important to record strengths, competences and resources of the participant to be able to draw on them when solving the selected problem during the coaching process.

In the next phase (planning) an individual support plan is drawn up. Here, a distinction is made between theme, framework and action objectives. It is crucial to adhere to the hierarchy moving from the abstract theme objectives to the concrete action objectives. Theme objectives take interests and hopes into account, they are personal, easy to understand and formulated in a positive way – they reflect the participant's visions. Framework objectives relate specifically to the guiding problem (i.e. self-employment as entrepreneur) and its explanation hypotheses. They are generally in line with the theme objectives. Lastly, action objectives are formulated to concretely implement the framework objectives. They are incremental and must be manageable for the participant. The so-called smartS criteria (specific, measurable, acceptable/attractive, realistic, timed and strength-oriented)³² should be taken into account when formulating the action objectives.

³² Cf. Ehlers, Corinna/Müller, Matthias & Schuster, Frank (2017). *Stärkenorientiertes Case Management: Komplexe Fälle in fünf Schritten bearbeiten*. Opladen u.a.: Barbara Budrich Verlag.

In the case level's next phase, it is a matter of implementing the defined objectives. In contrast to regular counselling, in case management this phase is more than just a recommendation and placement into assistance services. Here, close accompaniment and, if necessary, support is foreseen. The process is oriented towards the wishes, strengths and resources of the participant to initiate a helping process that is as autonomous as possible (keyword empowerment). If many different institutions work together, so-called case conferences can be of an advantage to make cooperation more effective.



Before ending the case management process as well as already during the implementation phase, the process should be closely monitored and if, necessary, modified by the advisor/coach. The close accompaniment of the change process by the advisor/coach offers the participant additional support.

The end of the process should be active and binding. It contains elements of reflection, evaluation and farewell in which the handling of new situations without the advisor/coach should also be discussed.

The systems level of case management focuses on all the organizations and specialists who are involved in the solution process for those seeking advice. Here it is helpful to fall back on already existing networks of the advisor/coach as well as of the participant.

2.3 Concept and Curriculum Train the Trainer Program

The Train the Trainer program has been developed to respond to the challenges faced by those who aim to implement further vocational training, perform all coordination and management functions, and organize day-to-day operations to deliver qualifications in vocational education and training with a high level of competence. At the same time, the qualifications are to be combined with targeted innovation support for SMEs in the green economy. Management skills, the use of specific tools, organizational and procedural processes as well as communication and cooperation skills are trained. The focus is also on conveying best practices, exchanging experiences and practicing in role plays and group work.

Target Groups

The target group of the program is lecturers and consultants from (or delegated by) chambers, universities, vocational schools and other institutions of further vocational education and training.

Objectives

The – overlapping – teaching objectives are:

a) The teachers – respectively the delegates from institutions that provide further vocational training – get an overview of the structure and contents of the train the trainer concept, of analysis and intervention methods in process consulting and of implementing further vocational training, as well as an in-depth insight into the structure of qualification and consulting processes with the KAIN concept.

The institutions should be able to carry out the Tran the Trainer Seminar independently with the aim that in future qualified teachers and consultants will be available in all Baltic Sea regions for the implementation of professional training specifically for SMEs in sufficient numbers.

b) The participating teachers and consultants (coaches) should be able to successfully carry out further vocational training at a high-quality level and to qualify, advise and promote SMEs and their employees in the green economy.

Duration of the training

Two days training

First day from 09:00 - 18:00 and from 19:00 Dinner and international exchange of experiences

Second day from 09:00 - 17:30/18:00

Teaching methods

Lectures, teaching talks, working in small groups, case studies/ examples

Teaching materials

Information material (basics & backgrounds, thematic introductions, ...), ppt-presentation, questionnaires, question guides, checklists, analysis results, good practice examples ...

2.31 Program and Content

Module I: Initiation

- Greetings
- Objectives and execution of the training
- Self-presentation of the participants
- Determination of the participants' previous knowledge

Module II: Overview and in-depth information about the 3LOE further training programs

- Four shorter trainings on energy saving and renewable energies
- Six trainings in the Green Economy with the KAIN method
- Training Enterprise and Entrepreneurship in Green Economy
- Training Energy Service Manager
- Training Environmental Manager & consultant
- Training Vocational Master
- Training Construction Technician
- Training Service Technician
- Work-related English with Focus on Green Economy for companies
- Two-year courses “Agronomic productions and techniques for sustainable products in bioconstruction”
- Two-year courses “Oenology sustainability”

Module III: KAIN Method

- What is and how to apply with the KAIN-method (Knowledge Acquisition according to Individual Needs)
- Instruments for analyses and interventions
- How to
 - moderate internal working groups and responsibility circles
 - facilitate dialogues to develop goals and measures
 - support implementation processes
- evaluation of results and process progress
- Attitudes and behavior in consulting processes

Module IV: Implementation of further vocational training courses

- Objectives of the training
- Participants and target group
- Notices and Information for participants
- Recruiting participants

- Implementation of further training
- Evaluation of further training programs
- Evaluating and conducting examinations
- Implementation report

Module V: Qualification of the unemployed

- Integration program for unemployed

Module VI: Pedagogy

- Effective Teaching and Training Techniques
- Attitudes and behavior in teaching and consulting processes
- Attracting participants and looking after them
- Methods, instruments and experience

Module VII: Best Practices

- Best Practices and experiences in Germany
- Best Practices and experiences in Austria
- Best Practices and experiences in other countries
- International exchange of experiences

Module VIII: Educational qualifications, examinations and international recognition

- Recognized further education qualifications
- Regulations for new continuing education occupational profiles with a focus on the green economy
- Examination regulations
- International recognition
- Intermediate tests
- Final examination
- Repetition of examinations
- Examination pedagogy

Module IX: Supporting activities

- Information and cooperation tools
- Transnational networking, cooperation and information platform
- Overview of other 3LOE Train the Trainer programs
- Supporting activities by the Center of vocational Excellence

Module X: Completion

- Materials for everyday use
- Contacts for assistance
- Feedback

2.32 Time schedule

When?	What?	How?
1 st Day		
09:00 – 09:30	Module I: Initiation	Presentation Self-presentation of the participants
09:30 – 11:00	Module II: Overview and in-depth information about the 3LOE further training programs	Presentation Development partner reports Experiences of implementation partners Discussion
11:00 – 11:30	Coffee break	
11:30 – 12:30	Module III: KAIN Method (part 1)	Presentation Lecture and teaching talk

	What is and how to apply with the KAIN-method (Knowledge Acquisition according to Individual Needs)	Discussion
12:30 – 13:30	Lunch	
13:30 – 14:30	Module III: KAIN Method (part 2) Working out the application of the method with a case study in small groups	Group work, presentations and discussion of results
14:30 – 15:30	Module IV: Implementation of further vocational training courses (part 1) Objectives of the training Participants and target groups Notices and Information for participants	Presentation Discussion Work in small groups
15:30 – 16:00	Coffee break	
16:00 – 17:45	Module IV: Implementation of further vocational training courses (part 2) Recruiting participants Implementation of further training Evaluation of further training programmes Evaluating and conducting examinations Implementation report	Presentation Discussion Work in small groups
17.45 – 18:15	Summary of the first day as well as wishes and suggestions for the second day Trainer, lecturer, all	Collection and Consulting Discussion

19:00 – 22:00	Joint dinner and international exchange of experiences	
2 nd Day		
09:00 - 09:15	Overview of the programme of the 2 nd day	Introduction
09:15 – 10:00	Module V: Qualification of the unemployed	Presentation Discussion Exchange experience
10:00 – 10:30	Coffee break	
10:30 – 12:30	Module VI: Pedagogy	Presentation Teaching talk Discussion of small group work Exploring own experi- ences and prejudices
12:30 – 13:30	Lunch	
13:30 – 15:00	Module VII: Best Practices	Presentations from dif- ferent countries Discussion Exchange experience in small groups and in the plenum
15:00 – 15:30	Coffee break	
15:30 – 17:00	Module VIII: Educational qualifications, ex- aminations and international recognition	Presentation Lecture Discussion

17:00 – 17:30	Module IX: Supporting activities	Presentation Discussion
17:30 – 18:00	Module X: Completion	Summing up Feedback collection

Appendices

Appendix 1: Presentations (PowerPoint presentation)

Appendix 2: Training method “KAIN” -Knowledge Acquisition according to Individual Needs

Appendix 3: Guide and checklist for the implementation of vocational training courses

Appendix 4: Integration program for unemployed

Appendix 5: Effective Teaching and Training Techniques

Appendix 6: Examination Regulation and international Recognition

2.4 Evaluation Concept Train the Trainer program

2.41 Introduction

Evaluating the training, teaching and learning has been an emerging issue in the 1980's when it was actively researched within several disciplines like education, pedagogics, psychology and organizational sciences. During the 1990's the enthusiasm flagged, but the interest woke up again in parallel with the waves of refugees and immigrants arriving to the Europe. The needs to include newcomers to the hosting society, to teach local culture, habits and language, and to train professional skills to comply with the local requirements have highlighted the importance of developing new teaching and training methods. These new methods and tools in teaching and training should

be compatible with the requirements set by cultural diversity of both the refugees and immigrants, and the societies more or less voluntarily receiving the incomers.

Furthermore, during the past two decades the western countries have met - in addition to enormous flood of settlers - another phenomenon that challenges the education system: The post-war baby boom generation reaches age of retirement. This has two consequences, both requiring the answers from school systems. Firstly, the western countries should have a capability and capacity to educate and train more and more nursing personnel to cover both the vacuum left by those retiring, and to answer to the needs of ageing population. Secondly, these countries should be capable to renew their education systems to be able to satisfy the needs of business, to be able to train skilled labor and to be able to educate more persons that are both capable and willing to create their career as entrepreneurs and to continue the work of retiring entrepreneurs. If this fails, the consequences for European economy might be fatal or even disastrous.

This challenges not only schools and universities or teachers and trainees, but also those developing the courses and teaching and training methods used in the courses. Evaluating the learning of trainees, used methods and the impact of these methods on the learning would help teachers, designers and analysts to improve the methods.

The aims and targets of the evaluation are context dependent issues. Thus, in ideal world, the courses, the methods used in the courses and the means to evaluate the outcome of the course, the learning of trainees and the efficacy and success of the methods should be designed together so that the whole course is seen as main process inside which the training and evaluation are parallel subprocesses. This would be the best way to ensure that exactly those goals set to this unique program are measured during the evaluation. In this case "Train the Trainer" -training program has been planned parallel with the planning of the evaluation.

The Train the Trainer program has been developed to respond to the challenges faced by those who aim to develop centers of vocational excellence, perform all coordination and management functions, and organize day-to-day operations to deliver qualifications in vocational education and training and higher education with a high

level of competence. At the same time, the qualifications are to be combined with targeted innovation support for SMEs in the green economy. Management skills, the use of specific tools, organizational and procedural processes as well as communication and cooperation skills are trained. The focus is also on conveying best practices, exchanging experiences and practicing in role plays and group work.

The target group of the program is lecturers and consultants from (or delegated by) chambers, universities, vocational schools and other institutions of further vocational education and training. The planned duration of course is 2 days. Methods used in lessons will be lectures, teaching talks, working in small groups, case studies and examples from real world. Material used during the teaching consists of e.g. information material (basics & backgrounds, thematic introductions etc.), presentations, questionnaires, question guides, checklists, analysis results, good practice examples and so on.

Evaluation of courses including gained results and found problems is essential to be able to develop further the existing training programs as well as to consider the experiences gathered from these programs when building new curricula. The evaluation process of each course has been designed hand in hand with the course itself.

When evaluating courses, the goals and real results should be compared. This is not always possible or fair and just. The evaluation should be targeted only to such measurable issues on which the designer, teacher, facilitator or student himself has an impact. Evaluating the impacts of training programs against the presented main goals would require large societal research including the recording of the initial situation before starting the programs and the long-term follow-up research in which the conducted interventions and actions (In this case new forms of training and education) and their impacts on change of variables is followed. The final conclusions can be drawn just after some years or after decades. In this project this is not possible and the whole evaluation process must be rethought and simplified.

The most important variables, on point of view of achieving the goals set, are the motivation of student, the support he gets, the relevance of issues in curricula, the quality material and training and the ability of facilities to support training and learning.

Although most of the variables presented above are so called soft variables, which can't be measured directly by targeting the measurement tool to some point or phase in the process, they can be assessed indirectly by assessing the feelings and comments of participants and other stakeholders.

Common steps of evaluation



The assessment of feelings and comments can be done with many alternative tools, e.g. surveys, interviews and follow-up studies in which a researcher follows lessons and training in practice and observes the students and teachers collecting comments and registering e.g. the atmosphere in the classrooms and during the training in the work-places.

In this case the experiences and comments of participants will be surveyed by simple questionnaire with questions approaching the common impressions, the applicability of facilities, the relevancy and importance of each issue and the experienced quality of each lesson and material used.

2.42 Evaluation concept

The objective of the evaluation is to determine whether the goals of the program will be achieved in the implementations evaluated, and how the program has impact on student's career and opportunities.

The type of the evaluation follows standard course evaluation methods, i.e. formative, process and outcome evaluation, the latter only partial:

- The formative evaluation will provide feedback to the curriculum designers, developers and implementers to ensure that designed and implemented courses really meets the needs of the intended audience, i.e. assure or im-prove the quality of program. Formative evaluation and analyses will answer to the following questions:
 - Were the goals and objectives suitable for the audience?
 - Were the training methods and course materials appropriate for the audience?
 - Should the program or some part of it be developed further and if, how?
 - Furthermore, formative evaluation also provides information that benefits the development of the program, facilities and timing.
- The process evaluation will provide information concerning the training and lectures, like asked questions and verbal feedback.
 - Process evaluation answers the question “What did you do?”
 - It focuses on procedures and actions used to produce results.
 - Process evaluation takes place during the training delivery and at the end of the training.
 - The co-organizer (Responsible for the course) monitors the training, describes the training process as a whole, and records the findings into the written report.
- The outcome evaluation tries to find out how the knowledge, attitudes, and behaviors of the audience developed. It takes a long time to find out the out-

comes of the education and training, so in this stage only the main topics participants are able to do at the end of training, will be assessed.

The evaluation process will be as follows.

1. Semi-structured questionnaires will be created for the participants (Appendix A)
2. Time for the survey (approx. 15 minutes) will be allocated in the end of the course
3. In the beginning of the course the organizer (responsible for the course) will inform participants about the evaluation and its importance for further development actions
4. The organizer (responsible for the course) distributes the questionnaires to the participants to be filled in before leaving the course. The purposes of the questionnaire and how the data will be used should be explained clearly to the participants. This will help to improve the response rate and encourage them to make comments that can be useful to improve future programs.
5. The participants complete the questionnaires and return them to the organizer.
6. A questionnaire will be created for the lectures of the Train the Trainer Seminar (see Appendix B). Lectures complete this survey form directly after the seminar.
7. The organizer collects the questionnaires from the participants and from the lectures and deliver them to the evaluator.
8. The evaluator compiles all feedback and summarizes written analysis on the evaluations and developed recommendations for curriculum and future use.

The evaluation approach will be based on a combination of qualitative and quantitative methods. The Microsoft Excel package will be used to transcribe the feedback and interviews. Open questions will be categorized, and qualitative analysis of the groups will be done.

The final evaluation report will discuss the following issues:

- Did the curriculum reach the targets?

- How well was the knowledge creation and sharing realized?
- Did the participants assimilate knowledge and tools?
- Was the venue and equipment appropriate for the training course?
- What kind of further development will be needed, if any?

2.43 Schedule of the evaluation

The schedule of the evaluation should be matched to the phases of the curriculum. There is no sense to evaluate the course before the students have a true and fair view of the course, its phases and contents. Thus, the survey will be conducted in the end of the course.

2.44 Questionnaires

TRAINING EVALUATION FORM FOR PARTICIPANTS

Dear Participant,

Please fill out all the boxes and note any observations you made during the training. Your answers provide valuable information for raising the level and efficiency of the training, and attractiveness of further trainings.

The questionnaire is anonymous. To fill out it takes you only a few minutes.

I. Please mark with a cross where applicable

Gender	Female		Male	
Age	<50		>50	
Workplace	Education		Business	

II. Please mark with a cross where applicable – only one answer possible

II.		Evaluation of the usefulness of training for the participant		
		Yes (4-5)	Partly (3-4)	No (1-2)
1.	Did the training meet your expectations?			
2.	Did the training meet the set goals?			
3.	Were the topics for the training well chosen?			
4.	Did the training improve your didactic competence and skills?			
5.	Did the training improve your knowledge from energy technical aspects?			
6.	Did you acquire enough abilities to work with students or trainees?			
7.	Will the skills acquired during the training be useful in your daily work?			
8.	Is it possible to implement this training in your country?			
9.	Is it possible to use full program of the training in your country?			

III. Please mark with a cross where applicable – only one answer possible

III		Evaluation of the teachers and the organization of the training				
		Excellent (5)	Good (4)	Fair (3)	Poor (2)	Very poor (1)
	How do you evaluate...					

1.	... the professional knowledge of teachers?					
2.	... communication of the teachers with the group?					
3.	... proportion of practical examples in the training?					
4.	...theory and practice ratio?					
5.	... work and learning organization?					
6.	...the presented material?					
7.	... working environment (tools, equipment etc.)?					
8.	... the organization of practical exercises?					
9.	... available time for individual questions?					
10.	... overall atmosphere of the training?					
11.	<p>What would you suggest doing better or change in the training program or organization of the training in the future?</p> <p>.....</p> <p>.....</p>					
12.	<p>Any other comments?</p> <p>.....</p> <p>.....</p>					

Thank you for fulfilling the evaluation sheet. It will be helpful to improve the training.

TRAINING EVALUATION FORM FOR TRAINERS

Date and location (date and place)

Organize by (name of organization)

Was time length appropriate for the training? Yes/no? Can you please give any constructive and helpful comments to make improvements?

.....
.....

How do you evaluate the trainees learning, activity, participation?

.....
.....

What else would you suggest?

.....
.....

Other remarks

.....
.....

Thank you for fulfilling the evaluation sheet.

It will be helpful to improve the training.

2.5 Implementation and Evaluation Report

2.51 Implementation

Train the Trainer program for teachers to conduct further training

Location: Panevezys Art Gallery, Respublikos str.3

Date:

Wednesday, 06.10.2021, 09:00 – 18:00

Thursday, 07.10.2021, 09:00 – 15:00

Management: Partner 01 Hanse-Parlament

Participants: 36 Persons: Project Manager und Teacher from all Project Partner

Program

When?	What?	How?	Who?
First day 06 October 2021			
09:00	Welcome and introduction		PP1 HP
09:15	Part I: Center of vocational Excellence (COVE) COVE Concept in the 3LOE Project a) Objectives b) Partner and Organisation c) Tasks (core and development tasks) Discussion & and clarify issues	Presentation	PP1 HP All
10:00	Work in 4 Groups <u>Group A Objectives of the 7 COVEs</u> a) Overall objectives b) Action objectives (What needs to be achieved during the project period?) <u>Group B Organisation of the 7 COVEs</u> a) Mandatory partners and additional partners b) Alternative forms of organisation c) How can commitment and reliability be ensured in a cooperation model?	Group Work Each group appoints a speaker	Moderation HP

	<p>Group C Structure and development of the 7 COVEs</p> <p>a) Which tasks do the COVE partners have to carry out during the project period?</p> <p>b) Main tasks for the coordinating partner</p> <p><u>Group D Development and implementation of training measures</u></p> <p>What do the three COVE partners vocational school, chambers and universities each have to do at the levels of</p> <p>a) initial vocational training</p> <p>b) continuing vocational training</p> <p>c) higher education</p>		
11:00	Coffee break		
11:30	<p>Speakers of the 4 working groups present their results</p> <p>Discussion</p> <p>Discussion Status and assessment</p> <p>Memorandum of Understanding</p>	Presentation	<p>Group Speakers</p> <p>Moderation HP</p>
12:30	Lunch		
13:30	<p>Part II: Further trainings in the 3LOE project</p> <p>Overview and in-depth information about the 3LOE further training programs (brief introduction of objectives, target groups, core content, scope, etc.)</p> <p><u>Shorter Trainings</u></p> <p>A) Four shorter trainings on energy saving and renewable energies 15min</p> <p>B) Six trainings in the Green Economy 25 min</p>	<p>Presentations & Questions of understanding</p>	<p>HP</p> <p>PP1 HP</p> <p>PP1 HP</p>

	<p>C) Work-related English with Focus on Green Economy for companies 7 min <u>Longer Trainings</u></p> <p>D) Training Enterprise and Entrepreneurship in Green Economy 10 min</p> <p>E) Training Energy Service Manager 10 min</p> <p>F) Training Vocational Master and Technician 15 min</p> <p>G) Two two-year courses “Agronomic productions and techniques for sustainable products in bioconstruction” and “Oenology sustainability” 15 min</p> <p>Discussion, experience of implementation partners</p>	<p>Discussion Exchange of experience</p>	<p>PP8 PCCIC</p> <p>PP7 PMCZ</p> <p>PP3 BAHH PP1 HP</p> <p>PP21 ES</p> <p>Moderation HP All</p>
15:30	Coffee-Break		
16:00	<p>Coaching and KAIN Method What is and how to apply with the KAIN-method (Knowledge Acquisition according to Individual Needs) Phase II: Attitudes and behaviour in consulting processes</p> <p>Working in small groups Discussion</p>	<p>Presentation Lecture and teaching talk</p> <p>Clarification issues</p> <p>Group work Discussion</p>	<p>HP</p> <p>All</p> <p>Moderation A Frevel & All</p>
18:00	Training end first day		
19:00	Dinner and international exchange of experience		
Second day 07 October 2021			

09:00	Part III Processes and tools of further training Group work A Entire preparation: from the curriculum to the recruiting participants B Implementation of further training C Financing, funding, consulting and evaluation D Evaluating, conducting examinations and	Work in 4 groups Each group appoints a speaker	Moderation PP1 HP All
09:30	Implementation report Presentation of group results in plenary session and discussion	Presentation & discussion	Group speakers & all
10:00	Checklist for the design of continuing education processes	Presentation & discussion	PP1 HP all
10:30	Tools for the implementation of further education in the 3LOE Project: Presentation of tools, collection of further tools and exchange of experiences	Presentation & discussion	PP1 HP all
11:00	Coffee Break		
11:30	Part IV Educational qualifications, examinations and pedagogy <u>A) Examinations</u> Examination regulations Recognised further education qualifications ECVET valuation and international recognition Examination pedagogy Discussion, exchange of experiences and clarification of questions	Presentation & lecture Discussion	PP1 HP PP3 BAHH All

12:00	<u>B) Pedagogy</u> Effective Teaching and Training Techniques, Methods, instruments and experience	Presentation & lecture	Dr. Sirpa Sandelin
12:15	Discussion, exchange of experiences and clarification of questions	Discussion	All
12:50	<u>C) Supporting activities</u> • Information and cooperation tools • Transnational networking, cooperation and information platform • 3LOE Train the Trainer programs	Presentation & lecture	PP1 HP
13:15	• Supporting by the COVES • Best Practices		
13:45	Final discussion, feedback and conclusion of the training	Summary and discussion	PP1 HP & all
14:15	Lunch		
15:30	Conference „Entrepreneurial Success with strong Partners”		

Presentations and Teaching Material

- Presentation: Part I Center of vocational Excellence
- Presentation: Part II Further trainings in the 3LOE project
- Presentation: Part II KAIN & Coaching
- Presentation: Part III Processes and tools of further training
- Presentation: Part IV Educational qualifications, examinations and pedagogy
- Presentation: Part IV Supporting activities
- Presentation: Part IV Effective Teaching and Training Techniques, Methods, Instruments and Experience
- Program for Teachers to conduct further Trainings

2.52 Evaluation

Introduction

In the following, the results of the Train-the-Trainer program for teachers to conduct further training tested on October 6th and 7th 2021 in Panevėžys, Lithuania are presented.

An online survey (Attachment I) was created that was shared with the participants.

28 people responded to the feedback survey.

Results

General Assessment

	ABSOLUTELY AGREE	SOMEWHAT AGREE	NEITHER AGREE NOR DISAGREE	SOMEWHAT DISAGREE	ABSOLUTELY DISAGREE	TOTAL	WEIGHTED AVERAGE
The TTT met my expectations.	75.00% 21	25.00% 7	0.00% 0	0.00% 0	0.00% 0	28	1.25
The TTT was useful for my work.	57.14% 16	35.71% 10	7.14% 2	0.00% 0	0.00% 0	28	1.50
I would recommend this training course.	67.86% 19	25.00% 7	7.14% 2	0.00% 0	0.00% 0	28	1.39

The expectations of all participants were mostly met. The vast majority of them regards the training as useful for their work and will recommend the training course.

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.	67.86% 19	32.14% 9	0.00% 0	0.00% 0	0.00% 0	28	1.32
The methods of the TTT were suitable.	53.57% 15	42.86% 12	3.57% 1	0.00% 0	0.00% 0	28	1.50
The training contents were relevant to my needs.	53.57% 15	42.86% 12	3.57% 1	0.00% 0	0.00% 0	28	1.50
I expect to use the knowledge and skills gained from this training.	64.29% 18	35.71% 10	0.00% 0	0.00% 0	0.00% 0	28	1.36

The content of the training is rated as interesting and informative by almost all participants. The methods and training contents were mostly regarded as suitable and relevant to the needs of the participants. In sum, almost all participants expect to use the gained knowledge and skills from the training.

Lecturers and Trainers

	FULLY AGREE	SOMEWHAT AGREE	NEITHER AGREE NOR DISAGREE	SOMEWHAT DISAGREE	DISAGREE	TOTAL	WEIGHTED AVERAGE
The lecturers/trainers were communicative, friendly and approachable.	96.43% 27	3.57% 1	0.00% 0	0.00% 0	0.00% 0	28	1.04
The lecturers/trainers were goal- and result-oriented.	82.14% 23	17.86% 5	0.00% 0	0.00% 0	0.00% 0	28	1.18
The lecturers/trainers were competent and well prepared.	92.86% 26	7.14% 2	0.00% 0	0.00% 0	0.00% 0	28	1.07
The lecturers/trainers responded well to questions and queries from the participants.	92.86% 26	7.14% 2	0.00% 0	0.00% 0	0.00% 0	28	1.07

The evaluation of the Lecturers was especially positive. Almost all participants appreciate their communication skills, friendliness, and approachability. Most participants also agreed that the trainers were results orientated, competent, and well-prepared. Questions and queries from participants were also answered well by the lecturers.

Organization

	FULLY AGREE	SOMEWHAT AGREE	NEITHER AGREE NOR DISAGREE	SOMEWHAT DISAGREE	DISAGREE	TOTAL	WEIGHTED AVERAGE
The overall organization was good.	92.86% 26	7.14% 2	0.00% 0	0.00% 0	0.00% 0	28	1.07
The overall atmosphere of the train-the-trainer was good.	100.00% 28	0.00% 0	0.00% 0	0.00% 0	0.00% 0	28	1.00
The training venue and environment was comfortable and conducive to the learning process.	85.71% 24	10.71% 3	3.57% 1	0.00% 0	0.00% 0	28	1.18
The duration of the training was appropriate.	75.00% 21	21.43% 6	0.00% 0	3.57% 1	0.00% 0	28	1.32
Overall, I am very satisfied with the training and would recommend it to other counsellors.	78.57% 22	21.43% 6	0.00% 0	0.00% 0	0.00% 0	28	1.21

The organization of the training was also overwhelmingly assessed as positive. The participants praised especially the good atmosphere, environment, and suitable venue. The duration was regarded as appropriate by most participants, only one participant disagreed to an extent. But overall satisfaction was high, and all participants would recommend the training to other counsellors.

Additional Comments

#	RESPONSES	DATE
1	Thank You very much	10/11/2021 9:21 AM
2	Thank you for the work you have done!	10/7/2021 12:23 PM
3	I liked that there were several presenters. I could learn something from each of them.	10/7/2021 12:22 PM
4	Maybe the training could be more compact. In fact, most of the content could be presented in a much more concise form. Also, it would be a good idea to give some free time after lunch for participants, as this would make us all work more effectively in the afternoon.	10/7/2021 12:22 PM
5	I'm also glad to gas the opportunity to MEET in persona the other partners. Thanks for the efforts in the organization, both of the lead partner and the host one	10/7/2021 12:22 PM
6	The acoustics was better this time, but I still think microphones would have been handy.	10/7/2021 12:22 PM
7	Everything was very well organized! Thank you	10/7/2021 12:21 PM
8	many thanks for your hard work and engagement!	10/7/2021 12:21 PM
9	Thanks for the great meeting.	10/7/2021 12:21 PM

The additional comments were overall positive and complimented the presenters and organization. The fact that multiple presenters were available, and the meeting happened in person was rated very high by the participants. One respondent pointed out that the acoustics were better in this training, but the event would benefit from the use of microphones. A different participant suggested making the whole meeting more compact and concise to save some time that could be used as an extended lunch break and would boost productivity in the afternoon.

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