

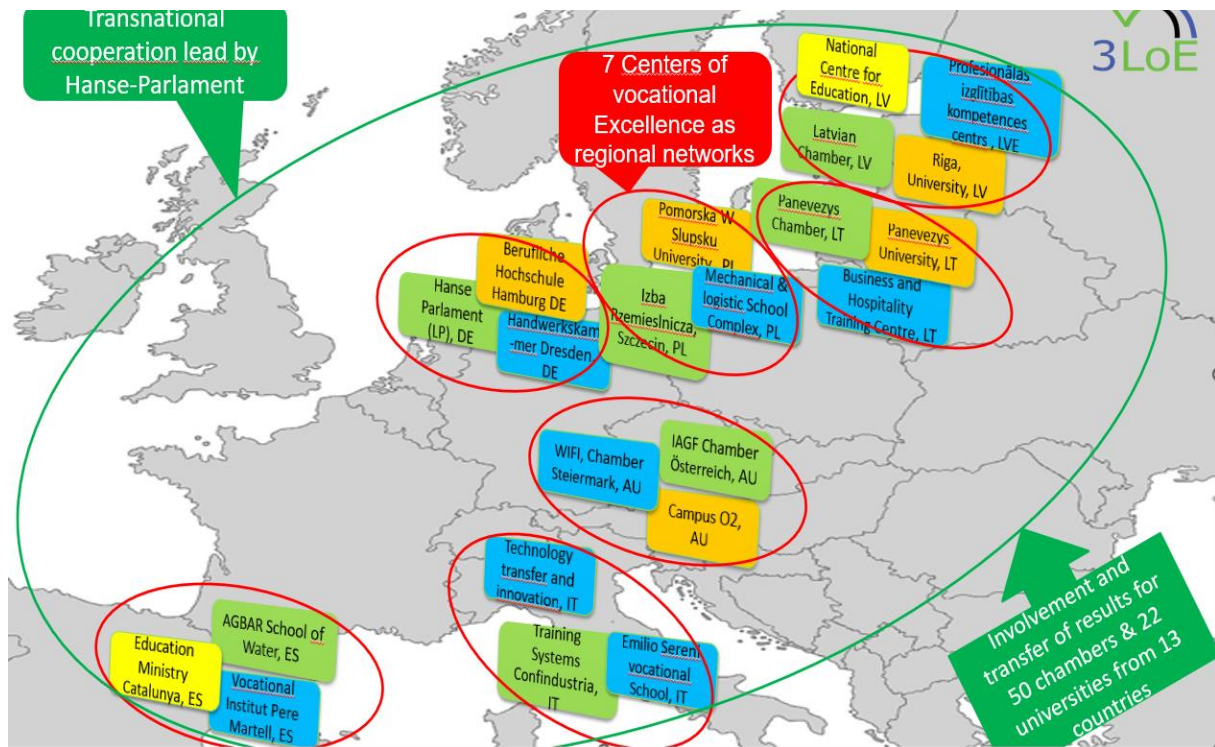
Result 2.4 Political strategy and action program



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Partner



Language

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1 Summary of the Project and Introduction

1.1 About the 3LOE 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-sight 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 13 countries was designed. In each country, centers of vocational excellence (COVEs) in Green Economy will be established, managed and their permanent continuation ensured. A transnational cooperation of the centers will be developed, extended to 60 education stakeholders from 13 countries and operated permanently in an institutionalized form. The centers will 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 will be developed and implemented. In total, seven Train-the-Trainer programs will be developed and implemented permanently by the project partners. All results will be transferred to the 60 associated partners together with implementation advice.

The 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 Expansion of the skills alliance to the 60 associated partners from 13 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 schoolteachers, trainers in SMEs and lecturers in further and higher education institutions).

1.4 Evaluation of the construction and operation of the seven 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 and transfer of curricula, evaluation and examination regulations for two existing dual Bachelor degree programs "Management of Renewable Building Energy Technology" and "Business Administration for SMEs".

4.2 Development and beginning of implementation of new dual Bachelor degree programs

- Business Administration & Sustainable Management of SMEs
- Entrepreneurship and Innovation in Green Economy
- Logistics - Green Supply Chains
- Service technician
- 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 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.

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 60 educational institutions in 13 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.

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.

1.2 About the political strategy and action program

In order to create a common starting point for the project work, analyses were carried out on economic and demographic developments, education and labor markets and the qualification requirements of SMEs in the green economy. They form the starting point for the subsequent development of concepts for the establishment and long-term operation of eight regional

competence centres in seven EU countries and for the development of a political strategy and action program for the long-term continuation of the centres of vocational excellence.

EU funding options (see Chapter 2) were analyzed in order to determine the future funding options for the long-term continuation of the eight COVEs and to create a basis for the development of a political strategy program.

In particular, vocational education and training must also fulfil the requirements of the world of work and the needs of companies. For this reason, the development of a strategy and action program is preceded by an examination of the working world of tomorrow (see Chapter 3.).

Based on this and on the results and experiences of the 3LOE project, objectives and strategies for a European education policy (see Chapter 4.) and starting points and strategies for the organization of future vocational education and training (see Chapter 5.) are formulated.

Strategies for the COVE in the individual partner countries (see Chapter 6.) are developed on the basis of these comprehensive results.

2. Analysis of EU funding opportunities¹

2.1 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.

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

¹ Prepared by Valsts izglītības satura centrs (National Centre for Education), Latvia

- European public administration: €82.5 billion

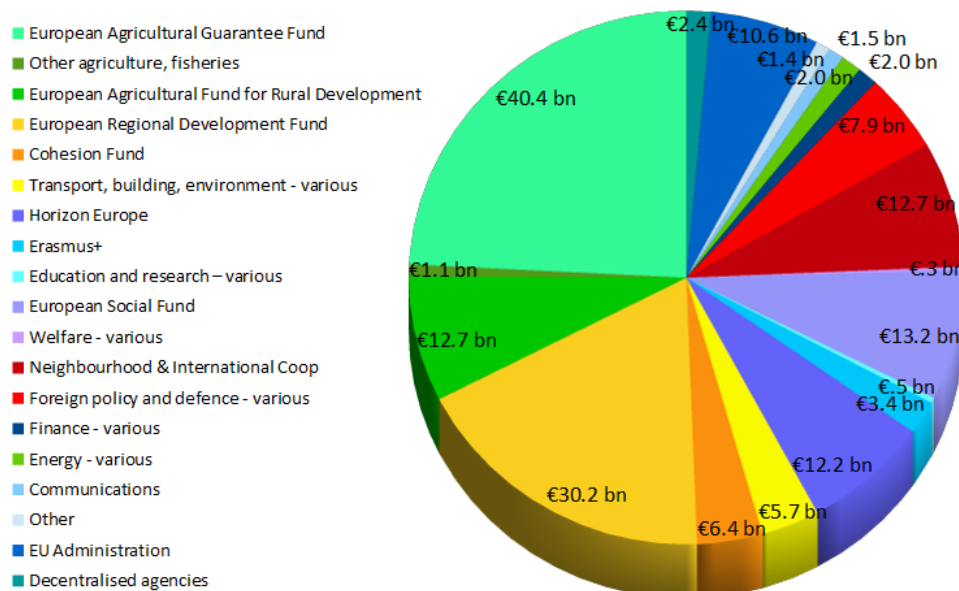
The plan for European recovery provides massive public and private investment at European level to create jobs and repair the immediate damage caused by the COVID-19 pandemic, whilst supporting the EU's green and digital priorities. To provide the EU with the means to address these challenges, the Commission 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

EU budget, by category, 2022

Source: Official Journal, Definitive Adoption 2022/182 (24.2.2022) L 45/18-29



Source: Official Journal, Definitive Adoption 2022/182 (24.2.2022) L 45/18-29

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.

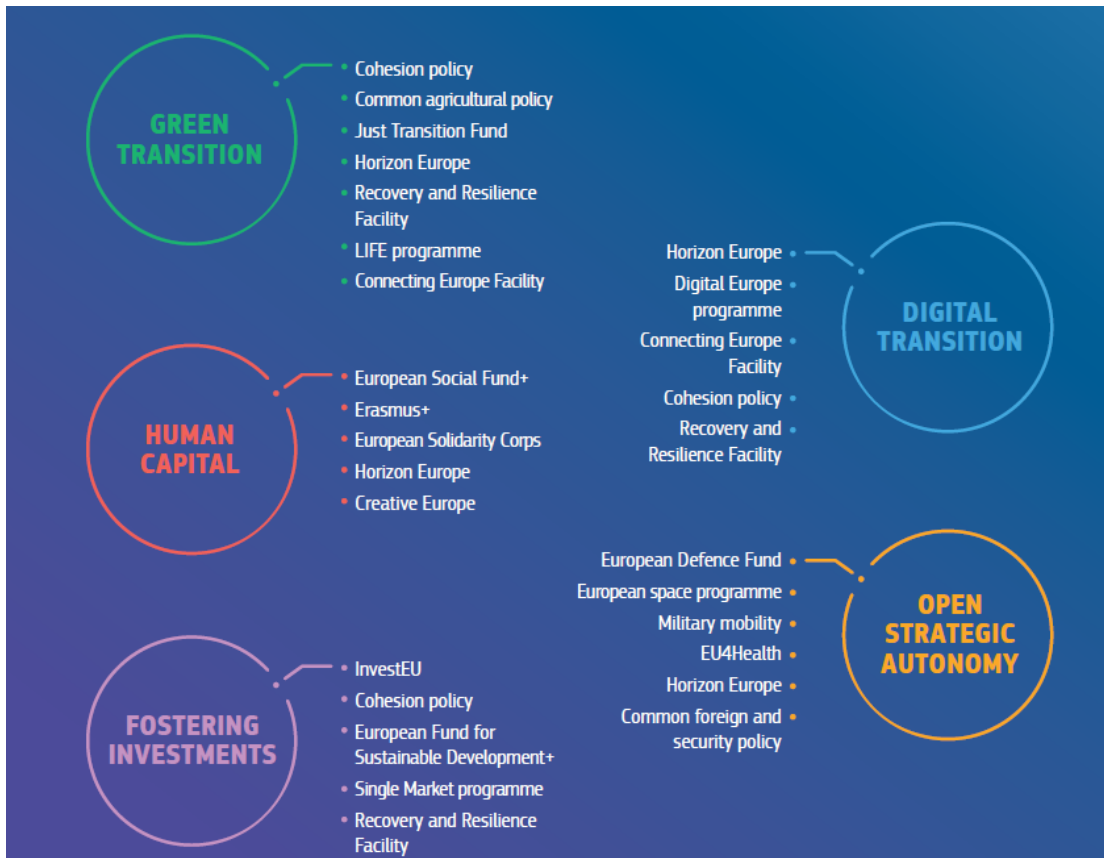
Facilitation of equitable climate and digital shifts via the Just Transition Fund and the digital Europe program.

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 fueling 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.



Source: *The EU's 2021-2027 long-term Budget and NextGenerationEU. Facts and Figures.*

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 infrastructure 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.

2.2 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.

2.3 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 labor 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 labor 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.

2.4 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.

2.5 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 workforce 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.

2.6 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.

2.7 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.

3. Challenges of tomorrow's working world, leadership and collaboration²

3.1 Challenges of a working world in transition

In the second half of the 20th century, the most EU countries experienced periods of steady growth for the most part. In addition to a high level of material prosperity, social security increasingly came to the fore and has now reached a very high level. This has inevitably led to a massive restriction of flexibility in the labour market, very rigid structures and high labour costs. This was tolerable for many years, as growth could always be distributed, but is now less and less manageable in times of structural up-heavily and significantly lower economic growth. In order to be able to cope with the high and rising costs of increasing prosperity and social security, a high degree of rationalisation has had to take place and work has had to be condensed and made less and less enjoyable.

An economy has emerged in which work is increasingly seen as a necessary evil to earn a living, and this evil should be minimised as much as possible: The aim is to earn a living with fewer and fewer working hours. To compensate for reduced working hours and higher costs, work has been made less enjoyable, less meaningful, more tiring and more illness-inducing or rationalised away in order to secure profits.

This has resulted in a very inflexible working environment with escalating costs, which is causing major problems for companies. The high level of social security is now having an increasingly anti-social effect, as jobs are being relocated abroad or replaced by machines, hardly any additional jobs are being created and the burden on employees is increasing. On the one hand, there are people who have a job and have to do more and more, and on the other hand, there is the large army of unemployed people who are outsourced.

Achieving continuous progress in productivity is the basis of the economy and has enabled steady growth. In principle, this can only be welcomed. However, constant advances in productivity inevitably mean that more has to be achieved in a given unit of time. More and more is demanded, everything has to go faster and faster. However, more and more people are no longer able to achieve the required level of productivity and are being outsourced as a result of rational behaviour. This particularly affects young people with learning and performance difficulties and older people.

So far, those who have been outsourced have been financially reassured, but by no means socially integrated. The growing extent of outsourcing is associated with a further explosion in social costs, the burden of which is becoming increasingly difficult to finance. Will this mean that more and more people will be left without a way out and in poverty and only a few will become richer?

Increasing productivity is achieved through the division of labour and specialisation. In order to enable productivity growth, division and specialisation must be driven further and further in line with the system, until the individual person only performs the smallest sections, can no longer establish the overall context for themselves and loses a strong sense of wholeness. For the narrow specialist, finding meaning in working life is then hardly possible. At the same time, tangibility is lost individuals are less and less able to recognise the effects of their actions. They behave in a strictly rational manner - without realising the damaging consequences of their specialised activities for society as a whole.

² Prepared by Hanse-Parlament

Far-reaching division of labour leads to a loss of quality; the sum of the individual parts does not result in a living whole. The design, harmony and strength of master-ful works from the Middle Ages are admired and the question is asked: "How was this possible at that time? We are much more advanced and perfect today in terms of technology." The answer lies in the holistic approach that the old masters lived unconsciously, because they did not yet know the possibilities of the division of la-bour and specialisation of the industrial age. At the beginning of a new era, a new holistic approach must now be developed with awareness.

Progressive division of labour leaves behind uncoordinated conditions that require control. This inevitably involves more and more unproductive activity in the true sense of the word; the effort required for coordination and control is constantly in-creasing. Coordination and control are carried out with the help of power apparatuses at the various hierarchical levels. The inevitable result is a constant increase in heteronomy.

However, the control is even more effective through the self-manipulation of the individual. Ideal values such as wholeness, self-determination, influence, co-determination, finding meaning, etc. are suppressed and material values take centre stage. Labour is then perceived as a necessary evil in order to achieve growing material prosperity. The decades-long suppression of essential values leads to the long-term consequences that we are experiencing today: Alcohol and drug abuse, fascist ideals and the accumulation of mental illness.

Through self-manipulation, people adapt to the system, make themselves ill and the social costs experience a further explosion. The system itself becomes ill and re-quires far-reaching renewal for sustainable recovery. For example, specialised and meaningless work on the assembly line can be replaced by assembly in manageable work groups; modern logistics delivers the required parts just in time. Changing value priorities and I and K technologies allow more holistic work through co-operation, with the highest productivity, better product quality and a greater sense of purpose in working life.

3.2 Models for the working world of tomorrow

3.21 Decentralisations

SMEs are the reliable backbone of the economy and society. 99% of all companies have fewer than 250 employees. They provide almost 70% of all jobs and, with their employees, bear the main burden of financing the social system. The new era, which has already begun, favours decentralisation and the development of smaller units. New and additional jobs will be created almost exclusively in smaller companies. The economics of scale are in decline. Large companies are imitating small company structures through internal decentralisation, the creation of profit centres, outsourcing and lean management. Decentralisation also applies to international business. An American study has revealed that small and medium-sized companies are the "hid-den champions".

This opens up the greatest opportunities for small and medium-sized enterprises; they are more important than ever today and even more so in the future. SMEs and the skilled trades will also overcome the current crisis and emerge from it stronger, because this is a systemic crisis of the large-scale economy. SMEs must not follow the once highly praised models of large companies but must instead focus on their very own strengths such as innovative strength, speed, flexibility and qualifications.

3.22 Co-operations

The negative consequences of the division of labour, such as the loss of a sense of purpose or an increase in social costs, are overcome through comprehensive cooperation, which enables further advances in productivity at a high level of quality:

- Group work will replace the assembly line.
- Rather than specialists in architecture and planning and dozens of trades, teams will build houses and work together from planning to completion. Such construction team solutions will lead to lower costs and higher quality thanks to co-operative working methods.
- Planning, design and production with the computer are once again combining functions into a closed work process that were previously divided up among specialists.
- Numerically controlled machines enable the cost-effective production of customised products or small batches by individual craftsmen.
- Modern factories will support decentralised developments and enable a small group of people to manufacture complex products that were previously the domain of large-scale industries based on the division of labour.

Co-operations require outstanding and new qualifications; personnel-social skills are becoming significantly more important. Intra-company, inter-company and international co-operation is based on the principle of combining individual or company strengths: Everyone does what they do best and is an integrated member of a team of holistic work. These methods of "co-operative specialisation" result in higher quality, lower costs and major advances in productivity.

Cooperation requires a high degree of decentralised availability and intensive exchange of information. Information technologies are ideal problem solvers for this. They make information available on a decentralised basis and, in future, will turn the living room into a workplace. Information advantages are becoming smaller, and this is accompanied by a gradual disempowerment of centralised systems. At the same time, however, this also entails the risk of information overload and a flood of information waste. The optimal utilisation of the new production factor "information" requires independent, effective management and, in turn, specific, new qualifications. It is also important to learn how to forget and systematically empty our heads. It is important to find out: "What do I really need?" Even complex processes can be controlled with just a few signals; it is not the quantity but the quality and intensity of the signals that are decisive.

Co-operative forms of work must be created within the company. Employees will no longer be reduced to their employment contract and the "sale" of their labour. As part of their remuneration, they will receive co-ownership rights and participate financially in the company's success by contributing their labour and personality. The reservations about this, particularly in small and medium-sized enterprises and trade unions, will be consigned to the dustbin of tomorrow's history.

Material and immaterial employee participation is experiencing a rapid increase in importance. The boundaries between specialists and managers and also between employees and entrepreneurs are becoming blurred. Everyone is becoming a co-entrepreneur. A new self-employment is emerging in dependent employment. Such developments are triggered on the one hand by economic constraints. In the face of increasing complexity and the dynamics of change, centralised control systems are failing. Information processing is becoming a new central bottleneck. Maximum innovation and creativity are required. Every mind is needed and must be involved in thinking independently and acting responsibly.

On the other hand, changed value weightings with increased importance for self-determination, influence, co-determination, holism, manageability, etc. have a much more lasting effect. Enjoyment of independence will become an important determining factor. In future, the free and responsible individual will increasingly be at the centre of society and the economy, forming a new elite that is not horizontal, but vertical to the structures.

However, co-operative forms of work will also gain in importance between companies and in international business. The medium-sized supplier, for example, will not only manufacture partial products for a large company, but will also take on development work and deliver complete solutions to problems. This will increase the need for direct exchange and intensive co-operation, while at the same time changing the power structures. The group is experiencing a new form of dependency on its medium-sized problem solvers. In international business, small and medium-sized companies are gaining market advantages through the growing need for region-specific, customised solutions that require intensive cooperation between suppliers and users. For example, small tailors in EU countries design clothes for their customers on a PC. At the touch of a button, this design, along with the pattern and colour and fabric specifications, is sent in seconds to a partner company in a country with lower labour costs, which then takes over production.

Internal, inter-company and international co-operation requires a high degree of trust. This is an economically indispensable principle. Trust is the only cultural characteristic that ensures the prosperity and competitiveness of a company and a society. Responsible behaviour is required in all areas. But how can this be achieved if trust does not provide the necessary freedom and if controls are not in place to reinforce both the trust that is given and the personal responsibility that is taken?

A holistic approach, co-operation and personal responsibility based on trust generate an almost inexhaustible amount of free energy in all areas of work and life. Trust motivates people to the highest degree and is also the most important organisational principle and control instrument, especially in cooperation. Without trust, fruitful co-operation and productive coexistence are not possible in business and society. Trust management thus becomes an important task. Trust generates speed, gives unimagined new strength and brings security. The new era will be an era of trust. It is a bitter necessity from a business and economic point of view and at the same time the only worthwhile path from a human point of view.

3.23 Control and management

In the working world of tomorrow, the self-coordination of individuals and manageable groups will gain in importance and will increasingly be controlled by practised value cultures. Individual companies must become one with their moral substance. They will develop a kind of "community of faith" in which employees are intensively involved and find what they really need in terms of material and non-material values.

Such a renewal of corporate cultures does not contradict economic efficiency, but rather strengthens the economy and is a prerequisite for its salvation. In a new economy, those companies that operate on the basis of a firm corporate ethic will be particularly successful.

A new economy must be an economy of complete transparency and tangibility - especially for employees, but also for customers. The principles of practised corporate ethics are still more firmly anchored in small and medium-sized companies, as transparency and direct tangibility are much more pronounced here than in large companies.

The previous economy primarily demanded functioning technocrats and flushed them to the top of companies. In the future, company management will once again need much more personalities who have mastered the art of leadership - people of the artist or visionary type as well as the original German master craftsman.

With better qualifications, a more holistic approach, new independence and greater personal responsibility, it is once again possible to find meaning in working life. The previously prevailing materialistic orientation is increasingly being overcome in a value-added society. Of course, earning a living is still a central function of working life. However, intangible values that are so

important to people's lives that they are not prepared to give them up - just to further increase material results - are increasingly taking their place.

This rebalancing of value structures is by no means in opposition to the economy, but rather a prerequisite for saving and safeguarding it. Over the past few decades, the mind has been wasted; the economy and society have become mindless. The renewal of the spirit is now creating a new economy and further prosperity.

Whilst employees are developing into co-entrepreneurs, employers are becoming the providers of meaning in their work as part of the intellectual reorganisation and further development. In this way, an almost free social energy is released in companies, the enormous potential of which has so far remained largely unutilised in most companies. The reserves in this respect are so considerable and the economic effects so far-reaching that the associated economic gains are greater than the international differences in labour costs. This is giving rise to a new international competitiveness: companies are not competing unilaterally on the level of wages, but in the utilisation of social energy.

Only in this way will companies in EU countries be able to compete internationally. They cannot win by competing solely on price, at a lower price and quality level, because there is always someone in the world who can offer even cheaper. European companies have to be better and faster than the rest of the world. This requires highly motivated, qualified employees who are fully committed but also fully involved. In the course of such developments, companies that used to relocate to low-wage countries will increasingly move back, because innovation, outstanding quality and the generation of social energy are less and less possible in countries that rigorously pursue the old Western economy, practise wage dumping and exploit the labour force.

3.24 Flexibilization

Within the framework of the old economy, labour was increasingly condensed and accelerated due to the system. Considerable parts of the associated costs and the humanisation of working life were shifted to the state as a social task. In the course of a new economy, the tasks of humanising work are being shifted back to the companies.

Labour is becoming less dense again. Perceived personal responsibility and intensive self-coordination create the economic scope for this. In the old economy, a great deal of effort is required for control and coordination, which in the construction sector, for example, must be estimated at well over twenty per cent of total costs. In the future, these unproductive costs will be converted into productive things within the framework of cooperation and self-management and will also reduce the density of work, reduce error rates and allow for higher quality.

The intensive use of information technologies will not reduce personal interaction, but rather expand it and promote joint planning, coordination and direct coordination. This is also associated with a de-densification of work; humanity is returning to the company and is seen as a productive asset rather than a cost driver.

The pace of work will also slow down. With people finding more meaning in their working lives, greater personal responsibility, more independent activities and a higher rate of self-employment, the enjoyment of work will increase and the transitions between work and leisure time will become more fluid. In the future, people will not work less, but rather longer, thereby also gaining potential for a decelerated working world.

In order to counter the high and growing unemployment rate, labour was to be better distributed: Daily, weekly, annual and lifetime working hours were shortened. This approach led to a

dead end, social and labour costs exploded, rationalisation was further fuelled, and the end result was not less but more unemployment.

Reduced working hours are not a suitable model for the future. In future, people will not work less, but more - but also differently. Rigid boundaries will fall, and extremely flexible working hours will be created. People will work when work is actually available in the company. Coordinated with this, various other activities are carried out or learning or leisure time is taken.

The far-reaching flexibilization affects daily, weekly, annual and lifetime working hours. The axe of retiring at a certain age will lose its sharpness and make way for smooth transitions even beyond the age of seventy. The strict separation between leisure time and working time will be a thing of the past; work will tend to become a hobby and hobby will become work.

People will have several jobs at the same time; at least 75 per cent will secure their income from three or more sources. Dependence on just one source of income and just one company will be significantly reduced. Multidimensionality will become the norm for many people, not only due to economic constraints, but also for reasons of independence, finding meaning and enjoyment. Frequent changes not only in activities and jobs, but also in professions are also becoming the norm. Safeguarding the knowledge gained from experience and passing it on to other employees and future generations is becoming an important management task in companies. Lifelong learning with alternating phases of learning and working will become a reality well into old age.

The market power of employees will grow, as the labour force will decline dramatically in all EU countries for demographic reasons. Companies will enter into fierce competition for "co-entrepreneurs"! Labour force participation will increase significantly, firstly for economic reasons in order to counteract the shortage of labour. On the other hand, higher labour force participation rates among all age groups are also a clear expression of the new significance of work as a source of meaning.

Activities that are particularly important to society, such as family work, raising children or voluntary work, which today are not part of gainful employment, are becoming a natural and highly valued part of working life. Women are experiencing an intense increase in importance, not only for economic reasons (because there is a shortage of labour), but in particular because a new economy is dependent on their specific characteristics and qualities.

In the new economy, great independence and personal responsibility are also reflected in the fact that the influence of trade unions and associations is declining significantly. Entrepreneurs and employees will intensively represent their interests themselves. Personal and individual company agreements will replace rigid collective agreements, and collective agreements will only apply to a broad framework. Trade unions and associations will increasingly co-operate with each other and take on new roles: In future, trade unions will promote vocational qualifications even more intensively and drive innovation. Associations will pursue the utilisation of social energy, corporate ethics and finding meaning in working life.

With the far-reaching flexibilization and mobility of the economy and society, the individual is particularly challenged, but also endangered. In an environment of almost total flexibilization, people need a firm footing, a new sense of security and reliable orientation. They will only be able to find these in their new cultures and value orientations. It is the task of interest groups, churches and, in particular, decentralised social units to accompany people on this path (not to dictate their values).

3.25 Value-added societies

All customers demand added value. They not only want to purchase a specific product, but also want reliability, safety, guarantees, quality, perfect service, personalised services and, above all, empathy. However, this excludes a hectic pace and requires care, genuine attention, human interest and time. As there is less demand for mass-produced products and services are growing in general and especially in direct connection with products, time and attention devoted to the customer is a productive investment.

People are also looking for added value in the world of work. With the more intensive development of multidimensional working environments, a combination of the most diverse activities is being pursued, from which people derive varying degrees of material reward and gain in meaning. Everyone will endeavour to earn a basic material income or - if they are unable to do so themselves despite their best efforts - to obtain this through the community and provide important social services in return.

In addition to basic material security, people will pay more attention to intangible gains when choosing their jobs, depending on their different value priorities. The company that offers more than just a salary will attract the best, most innovative and most productive employees. Likewise, the location and region that offers the greatest added value for the company and employees, optimally promotes the intellectual and mental infrastructure, offers the best qualified employees and enables high innovation and outstanding qualities will win.

In the course of these developments, horizontal career paths will increasingly emerge alongside vertical career paths, which are distinguished not by hierarchical levels but by areas of activity, more challenging work and greater opportunities to find meaning.

3.26 Culture of working life

Determining the substance of one's own culture is the all-important prerequisite for shaping the working world of tomorrow. This involves answering individual questions: "What am I doing in this world? What is important to me? Which principles are sacred to me? What values do I pursue that should determine my life?"

For centuries, the answers to these questions were left to others. Others - some-times the church, sometimes the sciences and sometimes politics - have dictated from above what is important at the bottom and what needs to be done. The real paradigm shift of the new era is that the definition of values from above, which had to be practised below, no longer works. Now everyone has to define their own values, and nobody can do this for them. In the world of work, too, everyone is ultimately their own slave; only everyone can free themselves.

In recent decades, the Western economy has lived in a state of "sweet decadence": "Sure, there are problems, but someone will solve them. Sure, reforms are necessary, but please don't make any changes in your own area of life. Somehow things will go on". The era of sweet decadence is irrevocably over.

It is not only the former communist countries that have to cope with profound upheaval and complete reconstruction. Cultures in the West must also be reorganised in order to save the economy. This path of reorganisation must be taken together. The Central and Eastern European countries should not uncritically adopt the Western model like the former GDR; they should not repeat the mistakes. The West can learn at least as much from them as vice versa. It is clear that communism cannot be a solution. However, it should also be borne in mind that the victorious model of the Western economy cannot claim to be globally viable and can only be saved by far-reaching reforms.

The western economy has won, but the winners should practise modesty. They are not a role model that everyone has to follow. They can only offer their help to others, and the latter must decide for themselves what is useful for them, what suits their strengths and cultures. But victory has made them arrogant and sluggish at the same time. The West claims 95 per cent of the global economy. With its supposed victory and the resulting behaviours, the West feels that it has elevated itself and devalued others. Everything is measured against the values of the Western economy, triggering pronounced feelings of inferiority in other countries: "Look, we are the winners. We're showing you how it's done. You don't have our culture and our standards. You're not as good as us".

One fundamental evil is the devaluation of others in order to valorise oneself. A central cause of the world's problems lies in low self-esteem. What is needed is an inter-personal and international equalisation of self-esteem. Today's winners should practise the humility that they themselves could be losers tomorrow. And the supposed losers have every reason to be proud of everything they have already achieved in the transformation process and of the strengths of their own culture. Perhaps today's winners will go to school with the supposed losers tomorrow.

Only through the process of an individual redefinition of our values and cultures can we shape a good future for the world of work. It is an intellectual process: if you want a better world tomorrow, you should not start with material things, but with new ways of thinking. It is crucial that employers and employees see each other as equal partners and deal with each other on an equal footing. Employees absolutely need social security, which they will only be able to obtain in future by taking greater personal responsibility over and above a collective basic level of security. This also requires a high level of responsibility on the part of employers, who must not revert to the times of Manchester's capitalism. Instead, they must treat their employees as responsible co-entrepreneurs and provide them with all the support and assistance they need to ensure their material and social security. If employers do not fulfil this outstanding responsibility, the suffocating flood of rigid laws and regulations that rob them of any flexibility can never be overcome.

The time is ripe to take the risk of creative reason and, with outstanding responsibility, to shape a working world based on partnership for the benefit of all.

3.3 Bottlenecks - challenges for management and the world of work

Bottlenecks in economic and social development always occur when supply is lower than demand, when innovative solutions are lacking and therefore enjoy a particularly high value. Today's bottlenecks therefore always characterise tomorrow's growth areas.

One of today's major bottlenecks concerns energy, environmental and climate protection. Innovations to save energy and develop alternative, non-fossil energy sources are rapidly gaining in importance, as are water conservation, wastewater treatment and waste reduction.

The emerging solutions predominantly emphasise eco-efficiency. However, the principle of eco-efficiency has a fatal drawback: it leaves the basic concept of industrial production unchanged. Reduction, reuse and regulations reduce the environmental impact and slow down the loss of natural resources; however, these processes do not tackle the conceptual errors at their root - they are dead-end solutions. As important as eco-efficiency currently is, it should not be overlooked that it only pushes back the limits of environmental pollution and resource consumption. Basic innovations with new lead technologies based on the cradle-to-cradle principle must design products in such a way that they do not become waste but can be used again after use to the greatest extent possible. The development of such a circular economy, which is modelled on nature, primarily requires intellectual innovations with far-reaching re-thinking and redesign.

Another current bottleneck area and therefore increasing growth area concerns the healthcare sector, which should not be seen solely as a cost burden on the economy as a whole. The growth potential of an above-average growing sector of the economy would thus be negatively assessed and possibly suppressed. A growing healthcare sector is a sign of increasing prosperity, which leads to a greater willingness on the part of individuals and society to invest in health. The greater appreciation of health, a rapidly ageing population and, in particular, a dramatic rise in the number of people in need of care will lead to a significant increase in expenditure on medical services, nursing and care. Medical-technical and organisational innovations in the healthcare industry are becoming increasingly important.

A third bottleneck area, which is still little discussed today, concerns the organisation of work and the design of processes for manufacturing products and providing services. In western industrialised countries, labour costs and the associated social costs are high and continue to rise. The resulting pressure for rationalisation innovations is being exacerbated by an increasing shortage of skilled workers and managers. The qualification requirements of companies are changing intensively and are constantly increasing, resulting not only in quantitative, but even more so in qualitative bottlenecks. The growth area of education requires a high level of innovation and investment. In addition, undesirable developments in today's system of division of labour with constantly rising social costs require fundamental innovations. Companies will have to intensively awaken and utilise social energy through far-reaching innovations in personnel and organisational development. The broad field of education and organisation of work is a first-class growth area that can only be developed through fundamental innovations.

Closely linked to this, information processing and problem-solving capacities have now increasingly emerged as a further new limitation, which requires intelligence-saving or expanding progress through technical and organisational innovations. In a global world with a strong division of labour, ever-increasing amounts of information have to be exchanged. The basic innovations of information and communication technologies come at just the right time, but on the other hand they trigger huge avalanches of information waste. In addition, the abundance and turbulent dynamics of the tasks to be managed at the same time are reaching the limits of the problem-solving capacities of a management layer that is too thin. Many more minds need to be involved in information acquisition and processing. Intensive education must increase the capacity for problem solving and teach how to use the technologies created for this purpose.

The current serious bottlenecks in the areas mentioned make comprehensive innovations necessary, but also particularly worthwhile. However, this cannot just be a matter of simple improvements. Rather, comprehensive basic innovations are required that do justice to the fact that the economy has already entered a new era.

3.4 Value structures - competition and co-operation

The development and breakthrough of new leading technologies goes hand in hand with collective changes in value structures. Assembly line work and the sale of mass products were only possible because material values took centre stage and spiritual needs were suppressed. The values that were held in low esteem for decades are now gaining in importance; there is a renewed desire to find meaning in working life, a greater sense of wholeness and manageability, influence, self-determination and co-determination.

The totality of human values can be divided into those that follow the principle of competition and those that follow the principle of co-operation. The values of the principle of competition result in fundamental behavioural patterns of finding happiness in competition with each other, in competition with other people or in competition with the environment. With the values of co-operation, the greatest success is increasingly sought in cooperation. Competition and co-operation are neither good nor bad in themselves.

Competition strengthens the power of innovation, but if pursued unilaterally, one's own gain is achieved at the expense of others. Co-operation strengthens solidarity and aims to achieve the best together. However, its one-sided, long-term application paralyses creativity and innovative capacity.

The basic problem lies in the one-sidedness with which the prioritised values pursue the principle of competition or cooperation over long periods of time. People do not succeed in developing both mental powers in unison.

Development is shaped by changing the weighting of values according to the principles of competition and cooperation. The longer and more one-sidedly a particular value principle is prioritised, the greater the resulting problems and negative effects will be. They can only be overcome by a renewed spiritual change of our prioritised value principle. Only the values of the co-operation principle such as personal responsibility, trust, manageability, solidarity etc. can currently bring about the necessary system renewal of holism through co-operation.

Modern communication and information technologies are helping to emphasise these new, actually ancient values. They allow knowledge advantages to merge, bring information to any place and at any time, favour cooperation and strengthen personal responsibility. In smaller economic units, they are becoming indispensable in the form of interlinked technologies in production, marketing and sales, in consulting and administration and in the provision of complete services.

The following values are becoming increasingly important:

- Self-determination, personal responsibility, participation, influence and co-determination. Not being a spectator but a player in all areas of life.
- Plurality and limitation of rationality, diversity, flexibility and critical engagement with the opinions of others. It is not a question of either/or, but of both/and. What is needed are emotions and intuitions that are on an equal footing with rational decisions. It is about the integration of opposites. There are many possible ways to achieve a goal. There is no single right way.
- Consciousness development and emancipation. Not only between the sexes, but also with regard to the relationship with the church, the state, associations, trade unions and all central institutions. All forms of co-operation and elements that promote creativity are associated with this.
- Creative altruism. It replaces individualism. It is about caring for the whole and thus being successful yourself. It is ultimately the age-old Quaker principle of being a good person and thus doing better business.
- Manageability and greater appreciation of the natural and social environment as a response to social and natural problems. People no longer want to be cogs in an unmanageable machine that is constantly being moved by others. They are looking for direct tangibility, their own contribution to solutions and also want to experience work as a source of meaning. Wage value is becoming relatively less important. What is needed are manageable and holistic work processes that allow the entire production process to be experienced and co-designed.

However, the crucial aspect of these changes in values and the resulting ethics is that ethics are no longer dictated from above but can only grow from below. It is often said that ethics must be formulated from above and then realised below. Reference is then made to the standardising power of individual institutions and groups, such as the church, politics or science. However, moral results are then presented by groups that do not do justice to the dynamics of

the individual decision-making process, but rather stop it. This behavioural regulation from above is the behaviour of past centuries and can ultimately only be understood as a claim to power or, to put it more clearly, as entitlement, which ultimately means arrogance.

I see an "ethics from below", in which certain groups or individual managers provide development support in the question: How can I as an individual justify my ethics in a very complex world and make my decisions as a fully responsible person? Old behaviour is: I dictate the results to the other person. New behaviour would be: The individual is able to think and decide independently in each new situation. The dynamics of the decision-making process itself must be supported; decision-making aids must be developed.

We are facing an all-important paradigm shift: ethics are not determined collectively but are decided and clarified individually. If there are undesirable developments in the direction of egoism - i.e. the detachment of the individual from their responsibility - this is because we have so far failed to show what the individual decision-making process looks like.

3.5 System innovations

It is important to recognise that individual technical and organisational innovations - however important they may be - are not enough to solve the current economic and social problems. For some years now, the global economy has been entering a completely new era which, in terms of scale and need for change, is roughly comparable to the transition from an agrarian to an industrialised society. The old patterns of yesterday and even more sophisticated technical solutions are no longer suitable for coping with the completely new challenges of today and tomorrow. There is a lack of comprehensive renewal of the systems to allow individual technical or organisational innovations to become effective at all.

- Eco and energy efficiency improvements are no longer enough. What is needed is innovation in production systems with the creation of a genuine circular economy.
- At best, innovations in healthcare efficiency and the acquisition of new capital to finance exploding healthcare costs can only provide a temporary respite. What is needed is an overhaul of the healthcare system that addresses the causes of illness, holistically incorporates all treatment options, strengthens transparency and personal responsibility and enables all stakeholders to act on an equal footing.
- Improvements in the humanisation of working life and rationalisation innovations have many limits. What is urgently needed are innovations in the system of labour with quality improvements and genuine productivity gains through holistic cooperation.
- The bottleneck in information processing and problem-solving capacities cannot be overcome by further innovations in information and communication technologies alone. It requires many more system innovations that involve all minds and thus increase capacities through qualification.
- The education crisis cannot be overcome through small individual improvements and partial reforms, but only through a fundamental overhaul of the education system.
- Improvements to the global economy and the ethics chapel quickly reach their limits. What is needed are innovations in the economic system that reward rational behaviour when the community is not harmed.
- Improvements in the promotion of small and medium-sized enterprises will remain largely ineffective if innovations in the political and economic system do not eliminate the undesirable developments of blatant distortions of competition.

System innovations are currently a fundamental prerequisite for solving problems and for other innovations in technology, organisation, social affairs, etc. to have any fruitful effect at all.

However, system innovations require intellectual renewal. Blueprints, strategy concepts and individual measures for system renewal already exist and are even being applied in isolated cases. However, they do not achieve a break-through and are not even openly discussed because they do not fit into current thought patterns and are not even allowed to be considered. The old spirit that has sustained us for decades and led to prosperity has been used up and wasted. The economy and society have become spiritless. A spiritual renewal must now precede this.

Innovations find their best breeding ground in a corporate culture that is characterised by a climate of experimentation. Stumbling encourages. And detours increase local knowledge. Without tolerance for failure, there can be no high rate of innovation in a company. Failure must be an incentive to carry on, to succeed.

Innovations are created when all minds are involved. Teamwork is required, because colleagues know more than the boss. The required information is all available. Everyone has to become a scout, hunter and gatherer in order to turn the information into a new picture, into innovations, like in a jigsaw puzzle.

Factual knowledge is certainly essential for innovation. However, hidden knowledge, intuition, the gut or, even better, the heart are at least as important. In our subconscious lies an enormous store of unconscious knowledge. This almost inexhaustible source of energy must be activated by allowing emotions and intuition to play an equal role to rational thinking and specialised knowledge.

3.6 New rationality of leadership

With strong turbulence and a rapid pace of change, our world becomes disorganised. It becomes impenetrable and developments are characterised by decreasing stability. Complexity increases so rapidly that the decision-making centres are increasingly overwhelmed, and the greatest bottlenecks arise in problem-solving capacities. The world appears to be chaos. We embark on a search for a new organising principle and discover chaos as a higher level of order. We discover that our linear thinking, which has dominated the last few centuries and tried to break everything down into clear cause-and-effect relationships, simply no longer works.

We have labelled deviations in our system of linear thinking as errors or coincidences. Now we are learning that mistakes can be productive and that there are no coincidences. Linear thinking does less and less justice to reality. As a result, developments are becoming less and less controllable according to plan. And we are increasingly moving from external control to self-organisation. Ultimately, all the information we need is available. However, we can only read it and make it available to us to a limited extent. Control in the unknown is becoming our daily business and calls on us to become like children again, who believe and marvel, hope and are constant-ly ready to learn, react at lightning speed and are very flexible.

In such chaotic systems, which we increasingly recognise as a higher level of order, weak signals have the greatest effect. And only very few signals determine further development, without the effect of the signals being precisely predictable. Leadership says goodbye to the feasibility of our world and at the same time gains a much more meaningful influence through the organisation of processes and the willingness to endure and promote growth with and through others.

The processes can no longer be explained rationally alone. A good feeling that a lot of things are no longer right with our environment, for example, is enough for us to act without waiting for scientific explanations.

A new rationality is required.

1. the rationality of facts is decreasing because linear explanatory contexts are becoming less and less suitable. Companies will therefore increasingly shift from an internal orientation to an environment orientation. In doing so, they will involve as many people as possible in gathering and processing information. The master craftsman, who is already overwhelmed by the plethora of control functions today, has only one chance, namely, to involve as many people as possible, especially his employees, in control processes. He will no longer be able to cope with patriarchal, centralised management and will have to switch to partnership-based management, whereby the various forms of employee participation will become increasingly important.

2. the rationality of strategy is declining. The markets are becoming increasingly fidgety. In a very turbulent world, it will be less and less about realising plans once they have been drawn up. What is needed instead is any increase in flexibility and creative and innovative potential. This is a particular strength of the skilled trades. Large companies work with long-term plans that are difficult to change and that commit the company for years in advance. It takes an extremely long time for these huge aircraft carriers to react to course changes and gradually turn the corner. By contrast, craft businesses are flexible speedboats that can react immediately to course changes and change direction in a flash. They have a planning horizon of around three months, which corresponds to their average order range. The lack of planning in the skilled trades was often seen as a deficit. However, the original strength of the skilled trades lies in the fact that they do not plan for the entire future, but remain flexible, innovative and fast. The skilled trades would be well advised not to repeat the mistakes of industry and not to pay too much attention to the experts who are in favour of ever more planning and calculability.

3. the rationality of management is declining. People no longer simply obey orders and directives. They want to use their own heads; they want to be involved. And that is the greatest gift for a company. What is needed is powerful leadership, without leading in the sense of giving orders and commands. The totally overstretched decision-making centres will have to relinquish power in order to find solutions to problems. Lean production, lean management, the dismantling of intermediate hierarchies, individual responsibility in group work, holistic action in production islands and decentralisation to smaller, manageable professional centres will characterise the industrial future. These new recipes describe the way of doing things that has always characterised a craft business: hardly any intermediate hierarchies, direct cooperation between master craftsmen, journeymen and apprentices, manageable work units. Large-scale industry now has to painstakingly catch up with the process that is actually at home in the skilled trades. The skilled trades are well advised to build on their strengths and develop them further, otherwise they will be beaten by industry with the weapons originally used by the skilled trades.

Informal information is faster, more direct and more durable than formal information. For example, a coffee corner for an ongoing exchange between employees and constant dialogue with customers is much more effective than all the circulars.

In order to control with signals, especially informal signals, pipelines have to be laid in the company, so to speak. In essence, it is about connecting minds wirelessly, so to speak, and creating the same will. If everyone has the same will, extremely few signals are enough to run the company smoothly.

The service society has long been overcome, the path to an information society has already been taken. New technologies will help to cope with information processes in the future. Here we are in the very early stages. Digitalisation means that information is available everywhere, information advantages are disappearing and management by all is becoming possible. In this

process, large companies are becoming an agglomeration of small businesses. People are intensively integrated into diverse networks that are supported electronically.

However, it is precisely against the backdrop of this far-reaching and comprehensive mechanisation in all areas of life that a radical humanity becomes the all-decisive factor as a counterweight, so to speak. The ability to marvel and let things happen, the serious question of well-being, human closeness and warmth cannot be replaced by technology. On the contrary, the foreseeable technical developments demand personal conversations, serious interest and lively interpersonal communication. The decisive factor here is that the signals are sincere and are sent quickly and directly.

4. Starting points for a European education policy³

4.1 Opportunities and challenges

Small and medium-sized enterprises are the backbone of the economy and provide stabilisation of social development. They make 99 per cent of all businesses in the Baltic Sea Region and provide about 70 per cent of all jobs, are indispensable for the training, and secure the lion's share of government revenue. Through a powerful medium-sized business receives the European Union outstanding opportunities for economic empowerment and mastery of international competition. Thus, this region of the future has the best chances to develop into an innovative, economically strong region of international standing.

The small and medium-sized enterprises (SMEs) have a chance in the national and international competition only with the greatest opportunities of innovation and quality at the highest level. Both require outstanding qualifications. There are already significant deficits, which will increase considerably in the future, thus limiting growth and innovation decisively. Improving the skills in general education, quality and attractiveness of professional training and further development in the vocational education and training systems are, thus, outstanding issues and important conveying tasks for the craft business and SMEs in the EU.

Every person is a unique creation and has the right to unique training and life. The straight and rapid course of training may not necessarily be the best one for everyone. Detours increase local knowledge and allow for a wide range of learning for life. Education must address all the senses and where this does not happen, no real learning can take place. In a highly standardised, unilateral educational system without individual learning goals and pedagogy, a growing proportion of young people fail, since they try to cope with the type of learning and do not match the collective standards. During their entire educational career, they collect only failures and then are quickly excluded as a failure. In some EU states around 15 per cent of school leavers are qualified to be inadequate and unable to undergo vocational training. Without professional training, they often remain without a chance for their whole life and are dependent from the cradle to the grave on state subsidies. Moreover, each person has at least one strong point. If this is recognised and supported, this person will make a valuable contribution for the society.

Each person deserves a second chance. If someone fails in a system, it does not mean that he or she is a failure. By means of other ways which initially may seem to be detours, but which are purposeful, good educational achievements can be made. This can be seen for example in skilled trade training. "I knew 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 sense.⁴" The overvaluation of the purely intellectual ideal of education has to 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.

Holistic education with individual talents also creates an urgent need for stronger learning. An elite education is not sufficiently pronounced in many countries, and it should no longer be a taboo. Systematic promotion of the strongest without the exclusion of the weakest is the decisive factor for the integration of all. Education must address all age groups. Lifelong learning

³ Prepared by Hanse-Parlament

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

must become the rule. The education policy must focus on the very young children (under 6 years) and the elderly (above 50 years).

This requires an education system in which many ways are opened, which allows for detours and offers largest permeability from preschool to university, which is needed with diverse, equal and versatile change and inclusion possibilities. Such a system, which opens up the design of individual educational careers, must pursue an individual education with a comprehensive training and thus the promotion of both strong and weak learners will be possible.

Such an evolution of educational policy is the key to the design of a fulfilling life and the social integration of each young person. Such improvements are also prominent within the interest of the economy that is coming to a complete change in the labour market situation⁵. The qualification requirements of the enterprises are high and continue to grow, whereas the level of education of the school graduates tends to decrease. In addition to the secure mastery of the basic cultural skills and factual knowledge, personal and social competences are becoming increasingly more important. In all areas there are already large deficits. Education will become the biggest bottleneck for further economic development and at the same time the most significant growth area.

The qualitative problems are strengthened by a substantial intensification of quantitative constraints. For demographic reasons, in the future the number of retiring persons on grounds of age will be considerably higher than the number of younger people who come to work.

With the exception of Sweden, the population of working age will decrease by 5 to 17 per cent in all the most states by the year 2030. At the same time the demand for labour is increasing, and there is a fierce competition for qualified trainees. As a result, there is a great threat of a shortage of skilled workers especially for the SMEs which may be pushed towards lower levels of qualification.

The small and medium-sized enterprises in principle have the very best opportunities for growth. To exploit the opportunity, however, they require a sufficient number of qualified personnel, which is already hard to obtain due to the beginning shortage of skills. These shortages are particularly serious because the trend is the growing importance of knowledge-intensive industries and services associated with a growing need for skilled workers. In the area the knowledge economy in the most EU states there are good initial structures and a considerable development potential. "Knowledge" is the crucial future resource.

In order to overcome the serious bottlenecks and to use the distinctive opportunities better use of the domestic labour force potential in the EU is needed. For example, on the basis of the acquisition rates of women in Sweden, participation of women can be increased considerably in different EU states. The creation of family-friendly workplaces is a vital prerequisite. Great potential exists also in the labour force participation of older people. 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 prolonged 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.

As important as these measures may be, they will not be sufficient. We will also need a targeted immigration policy to attract skilled professionals from States outside of Europe. As the labour

⁵ A detailed description can be found in: Hanseatic Parliament: goals and strategies of crafts and SMEs in the Baltic Sea Region, Hamburg

market situation in most European States is similar, among the nations the increasing competitive factor is emerging, which can only be decisive in the case of correspondingly high attractiveness. Relevant conditions affect in particular outstanding learning opportunities and diverse labour markets. The societies in the EU states must open up for multicultural challenges.

Education is the key factor for overcoming the quality deficiencies, for the activation of the local potential and for recruiting qualified migrants. Qualification determines the competitiveness of individuals, enterprises and regions. Securing trainees with good qualifications and high level of innovation is a question of survival for SMEs in the EU and the most important support task, which also makes the improvement of educational policy the most important future task. In this case the design needs to be implemented in such a way that a EU-wide educational policy strengthens particular countries and the whole region at the same time.

4.2 Objectives and Strategies in the Educational Policy in the EU

Lack of improvement and lack of reforms in education need to be often excused with the scarcity of public funds. These "cheap" excuses and defensive attitudes are the result of misplaced priorities, lack of creativity and far-reaching reform of incapacity. On the one hand, educational investments must enjoy a top priority especially in the EU, only then can they bring the best interest. On the other hand, comprehensive reforms have not necessarily led to higher spending. The higher-than-average per capita expenditure on general education in some countries (e.g. in Germany) by no means leads to the best educational outcomes. Moreover, the fall in the number of students also opens a new room for savings in the area of education.

The current educational system is in a number of countries strongly focused on direct recoverability. It lacks many individual grants and elite education as well as a comprehensive training for all mental, manual and social skills. The education system and also the economy run the risk that the systems will lay off their children and more and more people will not be able to meet the requirements due to the uniformity or leaving existing skills unused and eventually often outsourced. Similarly, the learning skills of stronger learners within the framework of the pronounced elite education experience need to be promoted. In principle, the man should not necessarily adapt to the existing the systems. The systems have again become more human and understand that every person is a unique creation, and as such deserve promotion and appreciation.

The education sector is often discussed primarily within the framework of structural reforms. Certainly, new educational structures are necessary, but when used alone they can bring very little results. But the creation of new structures cannot bring lasting improvement if not preceded by far-reaching cultural reforms. For further development of the cultures almost inevitably, new structures need to be developed.

4.21 Early childhood education

The focus of the educational policy must focus much more on the below six-year-old children. Learning begins at a very early age, and it is primarily the central role in the family. All family members, especially the grandparents, should be intensively integrated in a way that adults learn together with the children, e.g. languages. A considerable part of the family is increasingly unable to meet this development order. The deficiencies at home are forwarded to schools which can barely cope with these issues and compensate for them. Finally, within the framework of vocational education, enterprises become a repair workshop for families and schools and are less and less ready to meet the changing requirements and increasing cost pressure.

Families need to be strengthened with all the power in all policy areas.

This includes the rediscovery of extended families and the strengthening of the three-generation-families. The development of recent years has resulted in nuclear families. In the three-

generation family the grandparents take over the educational responsibilities and relieve the parents particularly on weekdays. In addition, the development of family-like structures and forms of cooperation among not related persons should be supported. The widespread introduction of full-time care ensures that both parents can continue with their career. This will have a positive impact on the declining birth rate, since childlessness is often the choice between family and professional life and in the case of two earners also the financial base is secured. In the Scandinavian countries this model is implemented largely in Denmark, and it is possible for all children over one year to attend day care centres.

At kindergartens and schools as a platform for exchange of experiences among themselves as well as educators and for further development should be created in the form of a parents- and family- school.

A sufficient number of nurseries and kindergartens is required which do not perceive themselves as mere storage sites, but as early learning and development while playing. Carefree play of the children decides on the future. Playing is for children a serious process which provides pleasure. Also, learning must be - regardless of the age - should bring joy and make children hungry and not full, has to open instead of closing, awaken curiosity, and provide impulse for continuation, so that all the former students finally find out in their life that there were things of which their teachers had no idea.

The ability of learning by playing needs to be used more actively. Early access to foreign languages is ensured through the introduction of bilingual kindergartens. This simplifies learning further languages and is significant for future close cooperation in the Baltic Sea Region. The highest priority should also embrace the early promotion of languages especially among children whose mother tongue is different, so that language barriers are broken down before the school admission.

An obligatory one-year preschool with smooth transitions into the school system according the linguistic abilities and the standard reached by each individual should be introduced. It ensures that children from disadvantaged families are supported in early learning and social behaviour. Further, it leads to the situation in which children which have a different mother tongue can master the language of the country before going to school.

The best and best-paid teachers, small group sizes and most attention will be required by the very young and not the older age groups.

4.22 School education

Schools should not be an isolated place of learning that is not intensively involved in the social, economic and social environment. The school must be strongly interwoven in decentralised structures, to be a central point of daily life for everyone, sponsorships with companies that include master craftsmen and trainers from the enterprises in the teaching course.

Individual schools and individual teachers in them must have a high degree of independence and personal responsibility. On the basis of the total budget, the schools themselves can decide to a considerable extent on the use of their resources. The teaching staff may not be chosen and imposed by superior institutions. The schools themselves need to decide on the recruitment and dismissal of teachers. Temporary employment contracts for teachers might be appropriate and gives rise to being aimed at a more intensive exchange between activities at school and in the economy. A performance-based remuneration should be granted.

Teachers are entrusted with the most important thing that a society can have, namely children. Teachers need support, respect and appreciation, and they earn trust. They have the freedom and responsibility to promote children's development and enforcement their development.

A new pedagogical approach is necessary that requires new qualification of teachers. Education is a development- and qualification- task and includes the responsibility of education. Teachers are exemplary trainer, which train the pupils, but simultaneously learn from the pupils. Transferred knowledge become quickly obsolete. This and the continuing development of pedagogics demand for an intensive further education of teacher.

The training which provides teachers needs to be further developed. A holistic education that is created individually and encourages each student according to his personal abilities and talents is required. This requires in particular the need to have distinct diagnostic competence of teachers in order find out the individual strengths of students and what individual performance objectives can be pursued. These pedagogical elements need to be encompassed with teacher training in a strengthened form and lead to further education. In order to appeal to all senses of students, it is also vital to supply teachers with artistic and manual skills. Every teacher should demonstrate the having professional training, which has the form of a dual degree in no way leading to longer training and academic studies.

The school 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. The language is not only the native language, learning at least two foreign languages should be compulsory. They should not teach as an "isolated" subject but rather as language teaching, such as mathematics instruction in English. In addition to the English language, a language from other EU region should learn. Enhanced establishment of bilingual schools, especially in border areas, allows attending school in the neighbouring country. Along with an expansion of the student exchange between the Baltic States, the regional identity will be strengthened, and it will provide the basis for future close cooperation. 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 basic education, social behaviour will be evaluated.

School/training shall be mandatory until 18 years of age. Following the basic education, all young people shall attend a secondary school or participate in a professional training. School education should not exclude anyone. The high proportion school leavers with no qualifications must be reduced without necessarily reducing level of individual remedial education. The Baltic Sea-wide uniform quality and minimum standards concerning the description of what should be mastered in which class, skills are developed and tested by independent and impartial institutions. This test results should not be used as evidence for the student or the exclusion criteria, but they should give teachers guidance about where they stand with their students,

while encouraging competition between schools as well as the need to focus on the best and schools learning from one another.

School structures play a secondary role, also in a structured educational system good result can be achieved with the highest permeability. Long learning together is not a prerequisite for good school education, but it facilitates, however, the mediation of personal-social skills of stronger learners and promotes sustainable integration. The success in most the Baltic Sea States suggests rather that mutual learning should be pursued as long as possible. All-day schools should be the norm.

The liberty of parents and teenagers to choose a certain type of school, a certain professional training or a specific field of study is an important asset. Children should not be robbed of their childhood. Parents must avoid determining the day's schedule of their children. Children need enough free space for self-organization, personal discovery of the world, their own individual adventures and gaining experiences. It may not lead to a situation in which children and young people due to a false ambition or misjudgements in the forms of education and courses of study are pressed to do something there every day that is unwelcome and unloved by them. Such young people will continuously collect only negative experiences and failures lose trust and be trained for failure.

With all due respect for freedom to choose skills, also individual strengths, potential and progress in learning the crossings into further education have a decisive influence. In any case, the choice requires very intensive advice from parents and young people. The overall opening and permeability of the educational system is needed so that everyone can reach their personal potential in accordance with each degree in several ways. Detours will then lead to the optimal way according to the individual possibilities and not to losing time. In this way detours increase the knowledge of the area.

For the crossings into a further training course the following conditions should be applied:

- Transition from preschool to the secondary school: Test on command of the native language and the individual level of development.
- Transition from middle school to secondary school: Individual schools should determine a level being the entrance requirement which needs to be achieved in the main school (or in the middle school) as a minimum. The respective minimum levels can be set individually by different schools.
- Transition from general education to vocational education: For each profession different levels of achievement and eligibility criteria should be specified as a mandatory entrance requirement which are then justified and proved to be transparent.
- Admission to university education: Each admission to university education (whether on the basis of the high school diploma or other rights) should necessarily be dependent on mandatory entrance examination. The level of requirements in the test should be determined by each college/university individually.

4.23 Vocational training

Still within the framework of school education it is 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. Even a careful consultation and preparation for vocational training must achieve a significant reduction of too high ratios of exchanges and dropouts in professional training.

Different levels of performance and eligibility criteria should be set obligatorily for the whole EU in accordance with the actual requirements and then approved to be transparent. These criteria help trainers and trainees, and the companies to get employees who are ready for the performance of the task and develop a sense of achievement in the case of young people who can be thus motivated for further work. The high number of dropouts and the risk of dead-end jobs will be significantly reduced.

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 learning disabilities for a period of 2 years, enabling focused and practical learning will be completed with an independent recognised qualification.
- Level 2: Middle vocational training courses with the mediation of theory and practice for a period of 3 years and a recognised qualification as a skilled worker or journeyman.
- 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 realised 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 professional 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.

Vocational training should 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 60 - 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 of the economic self-government; in doing so, intensive contacts to enterprises will be made resulting in cost-reduction and concurrent increase of quality. At least, enterprises or their representatives of the economic self-governance have 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. Accordingly, school-based vocational training requires intensive contacts with enterprises. 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.

A several-month internship abroad already during the studies needs to be supported intensively. 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 the three levels must be proven in national examinations. On this basis, the order of professional training and the examinations will be transferred in the entire Baltic Sea area, just as a sovereign function to the chambers as responsible institution for vocational education. The acquired qualifications require mutual recognition in the EU.

For this purpose, the development of the European Qualifications Framework (EQF) and a European system of credit points is conducted.⁶ These approaches are based on transparency and mutual trust. The focus is the qualifications of skills of stronger learners and learning outcomes. The focus is the qualifications of skills of stronger learners and learning outcomes. In the implementation it is particularly important to provide non-bureaucratic systems, the acquired skills and skills of stronger learners, documented 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 can - on the basis of a stable trust - perform the implementation of unbureaucratic systems and a full introduction of a pioneering role and innovation to reach the 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 orientational 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 above measures also outlined the upgrading and increased attractiveness of the professional education. In order to achieve these objectives complete outstanding permeability is needed between vocational and higher education to the educational backgrounds acquired

⁶ Hanseatic Parliament: Baltic Education – Recognition of vocational qualifications in the Baltic Sea Region

earlier to acquire qualifications. A vocational degree including professional activity of 2 - 3 years should entitle to higher university education.

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

The young people and their parents must be aware that, given the large and increasing proportion of university graduates 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 education further and university qualifications.

4.24 Vocational further education and studies

Further vocational training does not require government regulation should be primarily the responsibility of the industry and its local administration. Employers and employees need to, and it is necessary to recognise in a much greater extent the high and growing importance of training and heavily invest in it. 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 further vocational training requires intensive professional development and in particular some improvement. 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 and 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 EU countries should maintain the authority of sovereign functions. The chambers should be able to issue official examination regulations with recognised degrees of further education programmes (so called chamber examination). Solely the chambers should be responsible for the examinations in further education programmes.

The Qualification for Master Craftsmen has proved 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 programme. 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.

In connection with the far-reaching reforms under the Bologna process and the widespread introduction of the bachelor's and master's degrees, Bachelor courses should be much more practice-oriented and offered as a dual system. Studying at the university is linked to vocational training or practical work in enterprises. Vocational training is completed with a separate degree and in a certain scope leads also to credit points which are required for passing the Bachelor examination. Dual study programmes can be combined with the Qualification for Master Craftsmen. The achieved credit points must be taken into account completely for the Bachelor exam.

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 allows at the same time 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 concerning young entrepreneurs, managers and of professionals who have both practical training 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.

4.25 Educational and regional economic policy

Further decline in transport and communication costs increases the mobility of production factors. Enterprises migrate to locations with high potential of professionals and workers, to locations with attractive educational opportunities and diverse labour market.⁷

The local competition for (highly) skilled workers and capital is as a result more intense.

Education programs are a key competitive factor. Education policy, therefore, enhances to a large extent the overall location, regional and spatial planning policy.

Education promotes innovation and competitiveness and includes the main support task for small and medium enterprises. Education policy must be organised and have the highest priority over other types of policies. Understood in this way EU-wide concerted education policy must:

- increase the competitiveness of the entire EU.
- promote and developing human capital and the existing advantages and strengths.

⁷ Silvia Stiller, Thomas Straubhaar and Jan Wedemeier: Mare Balticum – in the Future more than the Sea! In: Knowledge transfer and innovations around the Mare Balticum

- specifically develop individual sub-regions, and optimally support the competition between locations within the EU in order to support the best educational opportunities and qualified professionals.
- enhance both the overall attractiveness and competitiveness of the EU compared with other regions to increase migration of workers and enterprises.
- be enshrined in the EU strategy and have priority.

Politics, economy and society of the EU must address their outstanding position of education policy and it is necessary to recognise that the investment in human capital is the safest and brings the best profits.

4.3 Conclusion: Key Themes of the Future Educational Policy

Opportunities for the future

The European Union is deemed innovative and economically strong region which has not exploited its potential yet. At the same time, however, there is the emergence of revolutionary developments which can strongly limit the economic dynamics, and which require an increased commitment, especially in terms of educational policy.

Changes in labour markets

Such an evolution of educational policy is the key to the design of a fulfilling life and the social integration of each young person. Such improvements are also prominent in the interest of the economy which faces a completely different labour market situation.

Quantitative and qualitative constraints

In the next 20 years, the number of employed persons in the most EU states with the exception of Sweden will decrease by 5 - 18 per cent. The quantitative problems cause a substantial intensification of qualitative constraints. The requirements of companies towards trainees are high and still increasing. Personal and social skills are equally important to the factual knowledge. In most states an increasing number of graduates lack the required competences.

Increased competition

There is a growing competition for skilled young people among SMEs, large enterprises, universities/colleges and government agencies. Moreover, small and medium-sized enterprises, which provide about 70per cent of jobs, threaten that they become losers and are pushed towards lower levels. Securing trainees with good qualifications and high level of innovation is a question of survival for SMEs in the EU.

Local employment potential and immigration

Increased immigration to the EU is required; attractive educational offers are a crucial factor here. The society must open up and meet the multicultural challenges. Above all, the domestic potential should be exploited in a better way. Educational policy must ensure that the proportion of young people leaving school without qualifications as well as non-trainable adolescents is reduced significantly. No young person should be excluded, everyone deserves a second chance.

Holistic education

The overvaluation of purely intellectual ideals of education has to be contrasted with the eminent character of education which appeals to all senses and encourages the acquisition of all intellectual, artistic and manual skills equally. School education always seems to lead to more

uniformity. Much more individualised instruction with personal learning objectives and success is urgently needed.

Promoting weaker learners and strong learners

Such holistic education with a promotion of individual talents is needed urgently both for learners with disabilities and for stronger learners. An elite education is not sufficiently pronounced in many countries, and it should no longer be a taboo. Systematic promotion of the strongest without the exclusion of the weakest is the decisive factor for the integration for all.

Early childhood education

Early childhood education must be greatly expanded. This includes sufficient number of places in kindergartens and a mandatory one-year preschool with the best and best-paid teachers.

Priority for quality improvements

The mere creation of new structures cannot bring any lasting improvement if they are not preceded by far-reaching cultural reforms with improvements in quality. Evolution of cultures almost inevitably leads to the growth of new structures.

School structures perform a secondary role. Also, a structured educational system can bring success in the case of high-level permeability. Long learning together is not a prerequisite for good school education, but it facilitates teaching personal and social competences and promotes sustainable integration. The success in most EU states suggests that learning together should be implemented as long as practicable.

Increasing attractiveness and quality in vocational education

The attractiveness of vocational training has decreased very sharply in all countries it reached a proportion of 10-15 per cent of graduates going through vocational training, which is an alarmingly low level. The proportion of practice in vocational education must be increased significantly, especially in countries with educational systems. Wherever possible, training should take place in the dual system.

Admission requirements and differentiation

The introduction of uniform EU entrance requirements of vocational training which is determined job-specifically is desirable. Specific ways of vocational education need to be introduced with complete transparency for children with learning disabilities but also for stronger learners.

Openness and transparency of the educational system

Vocational education is too separated from other branches of education and quickly leads to dead ends. A complete transparency in vocational education as well as between vocational education, general education and university education with smooth transitions and recognition possibilities is urgently needed. This includes also the EU-wide right to study with fellowship or specialist degree, following the example of some Baltic States.

Open up for employees outside the profession

Small and medium sized business, particularly the craft sector, must open up more strongly for employees outside the profession and to win them over to a permanent employment. Tailor made teaching phase, precise further education as well as opening of the education systems and improvement of the permeability support this process.

Dual degree courses of study

Young people avoid vocational training and prefer studies. However, most courses are largely theoretical and not sufficiently focused on the practical issues of SMEs, which cannot obtain a sufficient number of entrepreneurs and skilled workers despite a large number of students. Dual courses of study which combine vocational training or activity with studies have to be established on a broad basis.

International exchange

Stays abroad during training and professional activities promote increasingly important international knowledge and experience, and at the same time personal and social skills. The EU-wide unbureaucratic recognition of vocational training and further training qualifications is a crucial prerequisite.

Educational and regional economic policy

Moreover, the reduced transport and communication costs increase the mobility of production factors. Companies migrate to locations with higher potential of professionals and workers, to locations with attractive educational opportunities and diverse labour markets. The local competition for (highly) skilled workers is more intense. A standardised education policy must be anchored in the EU strategy and ensure that the individual EU countries and regions, as well as the EU as a whole, strengthen their competitiveness vis-à-vis other regions of the world through excellent education and build on their existing advantages.

Highest priority for the educational policy

The considerable opportunities of the Baltic Sea Region can only be exploited at the highest level of innovation and excellent qualifications. Educational policy is also to a large extent connected with locational, regional and spatial planning policy. Education promotes innovations and competitiveness and includes the main support task for small and medium-sized enterprises. Educational policy must therefore be superior to all other policies and needs to enjoy highest priority in the EU. Politics, economy and society of the EU must address their outstanding position of educational policy and recognise that the investment in human capital is the safest and the most profitable investment.

5. Strategy and action program for vocational training⁸

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.

5.1 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

⁸ Prepared by Hanse-Parlament

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.

5.2 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.

5.3 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-government 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 conducted⁹. These approaches are based on transparency and mutual trust. The focus is the qualification of skills of stronger learners and learning outcomes. 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 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

⁹ Hanse Parlament, Baltic Education – Recognition of vocational qualifications in the Baltic Sea Region, Hamburg

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 sense¹⁰ .” The overvaluation of the purely intellectual ideal of education has to 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.

5.4 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.

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.

5.5 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.

¹⁰ Prof. Joist Grolle: The Spirit of the crafts. Workshop Report No. 4, Zukunftswerkstatt Hamburg

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 enterprise 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 because 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 information 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 temporary 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”.

5.6 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.

5.7 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 predominantly 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 programmes 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.

5.8 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 example, 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

prolonged 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 labor 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 labor 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.

5.9 Strategy: 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. Despite 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 and Competence

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 dual 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 manifold 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 for various reasons.

- In order to attract enough skilled workers and young entrepreneurs, the attractiveness of vocational training must be significantly increased. A central starting point for this is the creation of complete permeability between vocational and higher education as well as the creation of a framework that enables the crediting and recognition of skills already acquired within various EQF levels.
- More and more school leavers want to complete a university education - mainly at the insistence of their parents. Vocational training seems less attractive to them, with the result that the number of participants is constantly falling and the massive demand for skilled labor cannot be met. In order to increase the attractiveness of vocational training, vocational further education qualifications have recently been awarded the title of "Bachelor professional" (e.g. in Germany). However, these are seen by many as "pseudo-university degrees" and do not lead to higher participation in vocational education and training. In contrast, dual study programs that combine vocational education and training with a recognized Bachelor's degree can demonstrably increase participation in vocational education and training among young people who are eligible to study at university.
- The skills required of entrepreneurs and skilled workers are high and growing. However, SMEs can only recruit a very limited number of new employees from the large number of graduates of conventional degree programs, as although they are well qualified in theory, they do not have the practical skills and professional experience that are urgently needed. With dual study programs that combine vocational training with a Bachelor's degree, or with trial study programs that combine vocational training, further education and higher education, SMEs can attract the urgently needed new generation of highly qualified entrepreneurs and skilled workers and overcome the excessive shortage in this area.
- Traditional degree programs have high drop-out rates, e.g. over 30% on average in Germany and even over 50% in technical degree programs. In combined vocational and university degree programs, the drop-out rates are demonstrably lower. And the remaining, significantly lower proportion of dropouts in dual study programs at least achieve a vocational qualification.
- In a number of EU countries, for example in Poland, the Baltic states and Hungary, the personnel, spatial and technical capacities for continuing education are severely

limited. These existing bottlenecks can be overcome by involving colleges/universities in continuing vocational education and training.

- New learning content and methods urgently need to be implemented in vocational education and training, particularly with regard to innovations in the workplace and the use of digital technologies in education. To this end, it is essential that universities participate in the corresponding development and implementation work and qualify teachers accordingly.
- In the area of workplace innovation, there is a great need for research and development in general and for its implementation with the help of digital technologies in particular. Universities must be heavily involved here and make a decisive contribution to finding solutions.
- Cooperation between universities and small and medium-sized enterprises (SMEs) has been far too underdeveloped to date, and there is a great need for guidance and support in SMEs, particularly in the area of workplace innovation. In conjunction with dual study programs, in which SMEs are equal training partners of universities, comprehensive and customized innovation support for SMEs by universities can and must be realized at the same time.

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.

6. Strategies for the COVEs¹¹

6.1 Country Strategies

In accordance with the developments in tomorrow's world of work (see chapter 3) and the strategy and action programme for vocational education and training (see chapter 5), each partner country has undertaken a comprehensive approach to ensure long-term sustainability. This involves the development and implementation of individualized country strategies that not only evaluate the progress made thus far but also pave the way for future growth and improvement.

These strategies represent a collective commitment to optimizing the impact and effectiveness of the 3LoE initiative. They encompass a holistic understanding of the project's achievements, lessons learned, and areas that require continued attention and enhancement. By taking this proactive approach, the partner countries demonstrate a shared dedication to the enduring success and positive outcomes of the 3LoE project.

The country strategies draw upon the diverse experiences and expertise of each partner. They serve as roadmaps for further development, offering detailed insights into specific areas of focus, resource allocation, and timelines. These documents embody a forward-thinking mentality, envisioning a future of the 3LoE centres established during the project lifetime.

Furthermore, the strategies prioritize stakeholder engagement and collaboration, recognizing that sustained success requires the active involvement and support of various stakeholders, including educators, policymakers, communities, and learners themselves. Through inclusive and participatory processes, the partner countries aim to foster a sense of ownership and collective responsibility for the continued success of the 3LoE project.

Country strategies encompass the following aspects: CoVE governance; funding and sustainability; focus areas of CoVE; curriculum; teaching and learning; support for trainees; research and innovation; collaboration and networking; policy advocacy, as well as strengths and weaknesses.

6.2 Country Strategy for COVE Austria

Country information

Following institutions are establishing a center of vocational excellence in Green Economy:

- Wirtschaftskammer Steiermark, Graz
- CAMPUS 02 Fachhochschule der Wirtschaft, Graz
- Wirtschaftskammer Österreich - Institut für angewandte Gewerbeforschung, Wien

CoVE Governance

WIFI Steiermark is the educational institution of the Styrian economy. Its task is to impart professional and personal competences to people working in the economy, from career starters to specialists and managers to entrepreneurs, on a part-time basis. More than 30,000 participants take advantage of this offer every year. The education program covers a wide range of vocational qualifications: subject-specific training and further education, the development of personal skills, the expansion of foreign language skills, core competences for management functions. The master schools, the vocational baccalaureate, the specialized academies, the educational tracks in accounting and other comprehensive educational programs impart publicly recognized educational qualifications. WIFI Steiermark is a partner of many Styrian companies in personnel and organizational development. Precisely designed qualification programs are successfully implemented in various forms of cooperation. The large pool of

¹¹ Prepared by Valsts izglītības saturs centrs (National Centre for Education), Latvia

qualified trainers from various fields, the proven organizational infrastructure, and the experience in project management of educational projects ensure high efficiency and reliable educational success.

FH CAMPUS 02 sees itself as a university of applied sciences of the economy for the economy. It is oriented towards the needs of companies to develop their competitiveness and the business location. The career-integrating and practice-oriented study programmes prepare students to take on specialist (Bachelor's degree) and management (Master's degree) functions and are tailored to the respective requirements of key functions in companies.

The competitiveness of the business location is supported by the following offer from Campus 02:

- academic training,
- scientifically based further education,
- transfer and R&D services, also in cooperation with other educational and research institutions.

Campus 02 trains entrepreneurial intra- and entrepreneurs who are able to:

- identify challenges and master them with their know-how,
- introduce and use state-of-the-art technologies and tools in the company,
- anticipate changes in the framework conditions, business models and processes of companies/industries, and
- to initiate corresponding adaptation steps in the company with their acquired competences.

The **Institut für angewandte Gewerbeforschung**, IAGF for short, represents a platform of scientists and trade representatives who deal with the trades and crafts in the past, present, and future with special regard to their future viability and further development.

Objectives of the Institute are:

- Hub of business and science
- Anchoring future topics, challenges, and areas of tension of trades and crafts in scientific discourse
- Scientific expertise for reforms and demands of companies in trade and industry.

The subject areas are education and profession, society and communication, economy and work, future and development, ethics and law, technology, and art/design.

Although this CoVE focuses its offers mainly on a regional level, it is open to participants from all over Austria, giving it a national context.

The center of vocational excellence Austria is established as a cooperative network consisting of different locations / institutions:

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

The partners of the center of vocational excellence Austria are active in:

- Vocational schools that implement dual vocational trainings and further trainings at EQF Level 3–5 as well as EQF Level 6 within the framework of dual study programs.
- Chambers of Commerce, Industry and Crafts that act as cooperating bodies for professional education at EQF Levels 3 - 6, carrying out vocational trainings and further trainings, examinations, consultations, and in particular representing SMEs, advising and integrating them as training partners for dual education.

- Colleges / universities at EQF Level 3 - 5 that participate in the development of curricula and new learning methods, provide lecturers, trainings for teachers and managers, etc. At EQF Level 6 they will implement dual Bachelor programs and innovation projects for SMEs.

Each location / institution is independent and economically autonomous.

The centre of excellence is coordinated by Wirtschafts-Förderungsinstitut der Wirtschaftskammer Steiermark (WIFI).

The management structure of the Austrian CoVE is set up as close direct and informal communication and is working well, as all the organizations involved have a strong connection to the Austrian Chamber of Commerce. In the future, efforts should be made to involve more political stakeholders by using the established and well-functioning networks of the Chamber of Commerce.

An evaluation concept and quality plan “Centres of Vocational Excellence and Cooperation” is created during the runtime of the project, which will be used. This concept includes regulations, standards, procedures, instruments, etc. concerning the establishment and long-term operation of the centres of excellence.

Furthermore, continuous regional, national and international meetings and exchange with all partners and relevant internal and external stakeholders guarantees that any trouble shooting, if required, can be done in a timely manner.

Funding and Sustainability

The project is funded by co-financing from the Erasmus+ Program and own resources of the involved partners. If the project is successfully completed, a follow-up project, again co-financed by Erasmus+, may be built upon it.

Another funding option is the course contributions, which can then be re-invested in the CoVE. There are also regional and national funding programs that can be used to finance the development of the CoVE. These are, for example: Funding from the province of Styria or funding from the Climate and Energy Fund of the Austrian Federal Ministry for Climate Protection, Environment, Energy, Mobility, Innovation and Technology.

There are enough different funding programs and therefore there is no need to create new ones. In the table below possible funding opportunities are listed:

Name	Level	Funding Agency	Next Call	Description
Erasmus+	International	European Commission	Program guide is published at the end of the year	Education projects on EU-level (e.g.; CoVEs, cooperation partnerships, small scale partnerships, etc.)
FFG	National	Federal Ministry	Continuous Calls	National funding agency for industrial research and development in Austria.
Interreg	International	European Commission	Announced regularly	Interregional cooperation programme
SFG	Regional	Municipality Styria	Ongoing calls	
Zukunftsfonds Steiermark	Regional	Municipality Styria	t.b.a	

In order to guarantee the long-term success, the CoVE will use funds generated from offering developed courses, thus the course contributions, as well as funding possibilities already mentioned above (Erasmus+, funding from the province of Styria, Climate and Energy Fund, e.g.). To improve the permeability of academic and vocational education, strong political will is needed so that long-term collaborations can be established between different educational institutions (such as universities, technical colleges, general education schools and vocational schools), companies and further relevant stakeholders. For collaborations between academic and vocational education and entrepreneurship to succeed, there needs to be a clear common goal among all parties involved, supported and moderated by an official body, so that funding for the additional costs is guaranteed, constructive work on an equal footing makes long-term solutions possible, and legal issues can also be changed during implementation, if necessary, in addition to organizational and content-related aspects.

In terms of permeability, it is also important to give students in the lower grades of all types of schools the opportunity to discover and find out about the various educational and career options. Increased cooperation with companies as a possible training location is essential in this regard.

CoVE Focus Areas

Currently the CoVE activities revolve mainly around building technology, heating technology and automation. In addition to building technology, also cooperation with the craft of chimney sweepers to support the process of developing apprenticeships at NQF level 5 such as the apprenticeships "NQF5 Energy Efficiency Consulting" or "NQF5 Fire Protection and Supply Engineering" or in the field of craft automotive technology to the NQF5 training "high-voltage technology" are currently carried out.

Building technology includes control and regulation technology and building services planning. It ensures the supply of heat, water and air to buildings and takes the entire building into account in the goals of emission reduction, energy and maintenance optimization. The applications of building services engineering are manifold: gas and sanitary engineering, heating technology, air conditioning, ventilation, lighting, etc.

The sector's main services include the planning and commissioning of ventilation, heating and water supply systems, supply and drainage systems and the disposal of waste gases and wastewater.

It is envisioned to expand the focal areas to other industries affected by the transition to more sustainability, such as Green Economy, Green Energy, Green Mobility with a focus on SMEs in the craft and commercial sector.

Meeting the challenges in the fields of energy, climate and environmental protection requires comprehensive reorientation and forward-looking innovations. The centre will in the future align itself in the various dual educations in vocational training, further education, and higher education, which focuses on Green Economy, Digitalization and Entrepreneurship and Talent Management/ sustainable HR practices.

Curriculum, Teaching and Learning

The focus of the teaching and learning activities clearly goes in the direction of continuous further education in topics relevant to the future, lifelong learning and staying at the cutting edge of technology.

IAGF as a company representative, acts as a direct interface to companies and guilds, and furthermore also provides support in the creation of higher vocational training at NQF 5 to NQF 7.

Vocational orientation in Austria already takes place in schools/lower secondary school/compulsory school. A best practice example for this is the various "talent centres" of the individual

regional economic chambers. However, further development in the area of life-long career orientation will be sought after in the CoVE. It will also place some priority in train-the-trainer courses to ensure that the educators themselves are always on the state of the art.

As an extended arm of the Austrian Federal Economic Chamber/trade and crafts division, the IAGF - Institute for Applied Trade Research - acts as a direct contact to companies, especially SMEs. In this way, the IAGF captures needs as well as concerns, fears and interests of entrepreneurs from different occupational groups and companies directly from practice, documents them and communicates them to educational institutions and political representatives and suggests solutions.

This close, direct cooperation with company representatives at the federal and state level makes it possible, on the one hand, to record the concrete demand for, for example, necessary special or new training courses for newly emerging economic topics in the Green Economy.

These requirements from practice are matched with the possibilities and experiences of educational institutions, so that comprehensive as well as efficient, practice-oriented teaching is possible.

Through collaboration within the CoVE the valuable insights of IAGF are directly applied in the curricula. The WIFI as established training center also collects and utilizes knowledge of trainers and the strong connections of the Styrian economic chamber to relevant stakeholders to keep their training materials and offers at the state of the art.

The professional development of teachers and trainers should take place in the CoVE itself as part of a sustainable principle. In addition, teachers must also be motivated to accept and implement the concept of "lifelong learning", because only through appropriate and continuous further training can they stay up to date and pass it on.

An important point of the project and the CoVE itself is the "Train the Trainers" program, which is intended to ensure that trainers themselves receive the further training opportunities they need to be able to teach in a contemporary-related manner. Two points for the train the trainer courses will be taken into special consideration:

- centrally organized train-the-trainer courses for teaching staff regarding new requirements for specialist staff in companies, especially in the area of new technological developments in the green economy (smart home, renewable energy systems, mobility, climate change), such as open days for teaching staff in companies and/or practical days for teaching staff in companies.
- centrally organized information events on new training content and training to educational institutions and their teaching staff.

Support for Trainees

The Styrian CoVE is characterized above all by its perfect interaction of WIFI and Campus 02. This interaction covers both the academic area (Campus 02) and various training and further education offers (WIFI). This portfolio is rounded off by the so-called Talent Centre, which also belongs to the Styrian Chamber of Commerce. In the WKO Styria Talent Centre, young people in the 7th and 8th grades can discover their interests, skills, and abilities at a total of 48 test stations and use this as a decision-making aid for an individually coherent and targeted choice of education and career. Furthermore, career orientation is also offered within Austrian schools as part of their curriculum.

The CoVEs partners strive to take the diversity of our society into account in their activities and to include it in the planning of strategic processes.

For example, at Campus 02 there is a coordinator for Gender & Diversity Management who supervises the various activities, supports questions relating to the topic of Gender & Diversity,

and provides the relevant know-how and thus supports the fields of study and Central services raising awareness and building gender and diversity skills.

On the one hand, all courses at Campus 02 and at WIFI Steiermark are open to everyone, regardless of their origin, religion, or gender, and on the other hand there are for instance courses at WIFI Steiermark that are conducted purely online for people with mobility restrictions.

Cooperation with Industries

As an extended arm of the Austrian Federal Economic Chamber/trade and craft sector, the IAGF - Institute for Applied Trade Research - acts as an interface between company representatives at federal and state level, as well as institutions in the fields of education, research, politics and the media. Furthermore, the Styrian chamber of commerce, the WIFI and the Campus 02 are in direct contact with an extensive amount of company partners.

The lively, direct exchange with experts and company representatives from different occupational groups makes it possible to identify regional and national concerns and to work out solutions together, such as developing new training programs along the higher vocational education path together with the different sectors.

The specific industries that align with our CoVE objectives and programs are:

- Renewable energy: Craft heating technology, Craft gas and installation technology, Craft metal technology, Craft mechatronics, Craft electrical engineering (heating and installation technology, building services engineering, energy generation such as photovoltaics, etc.), craft chimney sweep (energy efficiency consultant, fire protection and supply engineering).
- Green mobility - electro mobility: Craft automotive technology (automotive high-voltage technology), craft car body construction and car body painting technology

Working together with industries have significant benefits.

- Training can be tailored to the needs of companies: practical, efficient, customized.
- Reduction of the shortage of skilled workers.
- Shortening of job search (direct enticement from educational institutions)
- Reduction of job seekers
- Making the dual training pathway more attractive by offering recognized training for higher vocational education on NQF 5 to 7

Research and Innovation

WIFI Steiermark team is a young, dynamic team with a wide range of expertise in various subject areas. A wide range of topics can be adequately served through the employees' corresponding university degrees in the areas of sociology, environmental system sciences, economics, industrial management, and natural science technology. Through close cooperation with WIFI Steiermark, the individual expertise and research results of the team members can be incorporated in a targeted manner into the vocational training measures at WIFI.

Collaboration and networking

As already mentioned, the Styrian CoVE is primarily aimed at the Styrian and therefore regional economy. Thanks to the established network of the Styrian Chamber of Commerce, companies can be targeted and included. Because all three organizations are involved in international (research) projects, the CoVE also has a supra-regional and European context, because Campus 02, as a university of applied sciences, is aimed at students from Austria and also from the rest of Europe. The Styrian CoVE will also network and work closely with the 6 other CoVEs to build and share common knowledge.

Another example is GREENOVET Project, comprising 18 European Partners and co-funded by Erasmus+ Program of the European Union. The Project will foster the development of

Vocational Education and Training (VET) Excellence in Green Innovation across Europe and through the establishment of Centres of Vocational Excellence that will enable an innovative, inclusive, and sustainable economy. The CoVEs will focus the knowledge, resources, and infrastructures of the key stakeholders into the development of innovation and skills ecosystems, contributing to regional development, and promoting environmental, social, and economic development in Europe, through green and sustainable innovation processes enabled by VET Excellence. In an early stage, the project includes four regions, in different parts of Europe, with different development and challenges:

- Styria (Austria)
 - FH Joanneum Gesellschaft mbH
 - Technische Universität Graz
 - 3s Unternehmensberatung GmbH
 - Green Tech Valley Cluster GmbH
 - HTBLuVA Graz-Göding
 - Wirtschaftskammer Steiermark
- Vaasa (Finland)
 - VAASAN YLIOPISTO
 - VAMIA
 - Oy Merinova Ab
 - Ab Yrkeshögsskolan vid Åbo Akademi – Novia
- Skopje (North Macedonia)
 - Zdruzenie Nacionalen centar za razvoj na inovacii i pretpriemacko učenje Skopje
 - Ss. CYRIL AND METHODIUS UNIVERSITY IN SKOPJE
 - ASUC Boro Petrushevski
 - RADE KONCAR - TEP DOOEL Skopje
 - Macedonian Chambers of Commerce
- Leiria (Portugal)
 - Instituto Politécnico de Leiria
 - Pombal Prof – Sociedade de Educação e Ensino Profissional, S.A.
 - NERLEI - Associação Empresarial da Região de Leiria

The Styrian Chamber of Commerce, as a representative of the interests of the regional economy, often holds various larger (networking) events to stay in touch with the relevant decision-makers and stakeholders. The Room 466 department is very well connected to the Styrian Education Directorate through collaboration in various projects and often organizes stakeholder workshops and meetings as part of its projects.

Policy Advocacy

In the Regional Development Strategy 2020+, a basis for the further strategic orientation of activities was created in a joint process. Inter-municipal cooperation forms the basis for an effective bundling of resources and regional exchange of experiences - both central prerequisites for sustainably strengthening the quality of life in our diverse region. Four key themes were defined within the strategy, each of which is assigned strategic goals and key measures. These form the basis for the development of regional projects in the annual work programs, which are supported by the regional budget within the framework of the Styrian State and Regional Development Act (StLREG 2018).

The four strategic key themes and their priority goals are:

1. creating high-quality living space and integrated quality locations
 - Develop quality locations integrated and city-regionally
 - Upgrade regional centres and establish knowledge-based services

- Combine regional tourism with local recreation and leisure activities
- 2. enable needs-based mobility and intelligent traffic solutions
 - Strengthen the share of public transport and combined transport
 - Increase the share of cycling across communities
 - Support multimodal and networked mobility behavior
- 3. promote social participation and lifelong learning
 - Promote social cohesion and social integration
 - Support lifelong learning and educational and career orientation for everyone
 - Bundle public services in centres with good accessibility
- 4. ensure careful handling of the environment, landscape and resources
 - Protect landscape resources and ensure biodiversity
 - Ensure climate change adaptation across the region
 - Promote inter-municipal waste management models and strengthen the circular economy

The CoVE contributes to point 3 by supporting and promoting lifelong learning. Since the CoVE is well connected in terms of transport (easily accessible by bus), it also covers the point “Bundle public services in centres with good accessibility”.

Dissemination of the new pilots to neighboring countries with similar dual education systems, as well as to 3LoE member countries (e.g.: Switzerland and Germany: "Fire Protection Officer").

Presentation and further development of ideas for the development of permeable education programs based on best practice examples of the project partners, e.g. from Germany - dual study - professionally integrated study of the Hamburg University of Applied Sciences with the following target groups:

- Educational policy representation of vocational higher education in trade and crafts.
- trade and craft sector,
- 2 to 3 federal guilds of technical trades such as mechatronics engineers, metal technicians, electrical engineering, etc.

More intensive exchange and networking with project partners regarding their continuing education programs.

In Austria there are various regionally different intelligent development strategies, but none at a national level. Since the individual regions in Austria are very different and therefore have different needs in terms of educational offerings, it makes perfect sense that there are no nationally uniform development strategies, but rather regional and tailor-made development strategies.

The IAGF works closely with the Division of Trade and Crafts, Education Policy Department, to promote legislative adjustments and renewal in higher vocational education. The Higher Vocational Education Act (HBB Act), which will most likely be published in 2024 and which is currently under review (<https://www.parlament.gv.at/gegenstand/XXVII/ME/293?selected-Stage=100>), has been a milestone in upgrading vocational education. This was preceded by months of coordination and discussions. The IAGF, together with the Trade and Crafts Division, held an information workshop on this subject at the Ministry of Economics.

In September 2023, the first pilots were presented and explained to political decision-makers in the Parliament, in line with the new HBB law. In addition, the importance and significance of the formal higher vocational qualifications has been concretized.

Currently, the pilot "Energy Efficiency Technician", which has already been developed as a higher vocational education in a draft for an examination regulation and in a curriculum and training, is being further developed according to the law for higher vocational education. To be

developed are the corresponding examination bodies and examination documents according to the HBB Act.

Strengths and weaknesses

The strengths of the CoVE include, among others:

- a more practical approach to teaching than in “classic” universities.
- bringing together diverse people with different backgrounds.
- students get to know their fellow students and professors better as they spend more time in the training facility.
- after finishing the training, the students are more in demand on the job market compared to other trainings.

The weaknesses or challenges of the CoVE include, among others:

- Less of an opportunity to explore different subjects.
- Employers who focus on vocational students might be less able to adapt.

6.3 Country Strategy for COVE Germany

Country information

- Berufliche Hochschule Hamburg (-Vocational- university of applied science Hamburg synonymous with BHH)

CoVE Governance

The CoVE in Hamburg is based on several resolutions and regulations of the Hamburg government to anchor a study-integrated training program (similar to a dual study program) in a university. The individual equal partners are Hamburg vocational schools, co-operating companies and the Vocational University of applied science Hamburg. As part of the study-integrated training program, the vocational schools are responsible for the school-based part of the training. Parts of the school-based training are taught and examined at a DQR 6 level. The co-operating companies are responsible for the practical part of the training or studies.

The range of the CoVE is centered on the Hamburg metropolitan region. There is also an exchange with other organizations that also pursue the model of study-integrated training and therefore have comparable structures and objectives.

The model of study-integrated training already fulfils the CoVE idea relatively well. On the one hand, this is due to the state resolutions and regulations that provide the necessary framework for cooperation between the vocational schools and Vocational University of applied science Hamburg. On the other hand, important exchange formats for improving cooperation between the various partners have been created with the start of the study-integrated training program. A special exchange format is the regular training program conferences, at which representatives of the vocational schools (management and teachers) meet with representatives of the university (program management, professors) and with representatives of the cooperating companies (managers and trainers) to discuss the success and possible difficulties in implementation.

Funding and Sustainability

In the CoVE Hamburg, there is state funding for the higher education and vocational part of the training and private financing of the training by the co-operating companies. This funding basis is designed to be permanent. Other, additional forms of financing are not currently planned.

In addition, support in visualizing the respective benefits of CoVE for the various partners is useful.

CoVE Focus Areas

CoVE currently combines four vocational training programs with a Bachelor's degree in Business Administration. The following vocational training programs are relevant: Marketing and communication; industry, banking and finance as well as vocational training in various trades for small and medium-sized enterprises.

In all vocational training programs in conjunction with the business administration degree course, students are prepared for future management tasks in their companies or in the appropriate sector. In all vocational training programs in conjunction with the business administration degree course, students are prepared for future management tasks in their companies or in the appropriate sector. Modern technologies, digitalization and sustainability play an important role in all courses in various forms.

Curriculum, Teaching and Learning

At the Hamburg CoVE, initial vocational training is dovetailed with academic training through study-integrated training.

The students are selected by the cooperating companies and prepared for the current and future requirements of the market as part of the training programme. Company representatives meet regularly with university representatives and vocational school representatives to discuss the further development of the curriculum and to bring about necessary changes in the curriculum in the medium to long term.

Representatives of the cooperating companies and the vocational schools as well as the university should gain deeper insights into the other group, for example through reciprocal visits. This would also allow the different needs and necessities to be better communicated. This goal is not yet being sufficiently pursued. In the medium to long term, however, suitable formats for such an exchange are to be developed.

Support for Trainees

The vocational college has its own counselling and support services for trainees and for cooperating companies. A separate educational pathway coaching program was developed for trainees at the start of the university (2021). The aim of this program is to give students the opportunity to discuss possible problems and challenges in connection with the demanding training and study program individually with trained coaches. The vocational college has its own counselling and support services for trainees and for cooperating companies. A separate educational pathway coaching program was developed for trainees at the start of the university (2021). The aim of this program is to give students the opportunity to discuss possible problems and challenges in connection with the demanding training and study program individually with trained coaches. To ensure that diversity and inclusion are taken into account, there is an Equal Opportunities Officer who can be contacted by all those involved.

Cooperation with Industries

CoVE works with the co-operating companies in different ways. There are regular exchange formats with vocational school representatives, university representatives and company representatives.

There are joint discussions about the curricular requirements of the university and the practical requirements of the company as part of training program conferences. As part of specific project work at the university, students deal with current issues in the companies and contribute to finding solutions. Such projects also offer a very good opportunity to combine the practical challenges of companies with the curricular requirements of a degree program.

Individual sectors do not exist at CoVE. The relevant target groups are generally medium-sized or large companies that want to combine initial training with a Bachelor's degree program. The

advantages for all those involved in the collaboration are the achievement of a better understanding of each other's needs and requirements.

Research and Innovation

The study-integrated training programme relevant to the CoVE is being researched nationally as part of the TQM project (<https://tqm.hamburg.de/>). This research project is concerned with the development and design of study-integrated training and the educational pathway coaching programme. Technological innovations do not play a central role in the Business Administration degree programme. However, if companies wish to work on business management problems relating to a technology topic, they can formulate this as a requirement for the students' practical work and have the students work on it as part of a term paper.

Collaboration and networking

As already mentioned above, CoVE is networked with its co-operation partners through its connection to the BHH. These are in particular the vocational schools and the co-operating companies. Annual meetings are held at the vocational schools for cooperation between learning venues. Regular educational programme conferences are held at the university. Study-integrated training is also being researched as part of a scientific research project of the Ministry of Education (<https://tqm.hamburg.de/>). The TQM project team examines various quality aspects of study-integrated training and regularly exchanges information with representatives of BHH.

Policy Advocacy

In the Hamburg metropolitan region, the state University of Applied Sciences (BHH) has a fundamental interest in intensifying cooperation between vocational and academic education. The idea of a CoVE has thus largely been realized. With the launch of the BHH in 2021, important steps were taken for the legal, organizational and curricular integration of vocational and academic education. Important stakeholders are represented on the University Council, namely chambers, trade unions, politics and the university. In regular meetings, the BHH's progress is discussed, and important decisions are made (e.g. budgetary matters),

Strengths and weaknesses

Strengths:

- good integration of study-integrated training into the vocational training landscape in Hamburg.
- committed people who want to strengthen the idea of integrating vocational and higher education.
- legal framework for the design of the interlocking.
- comprehensive information and advice for anyone interested.

Weaknesses:

- the level of awareness is still too low, despite good networks among stakeholders.
- high burden for trainees and students.
- high need for coordination in detailed planning of lessons and exams.

6.4 Country Strategy for COVE Italy

Country information

Partners involved:

- ITA “Emilio Sereni” (Coordination Partner);
- SFC Servizi Formativi Confindustria;
- t2i trasferimento tecnologico e innovazione (Veneto Region Chamber System)

CoVE Governance

Italian MIUR - Ministry of Education, in the part of the Directorate General for Education Regulations (Schools, ITS, Universities and Research) entrusted ITA "Emilio Sereni" with the coordination of the CoVE, after consultation with SFC. All partners contributed to develop and implement CoVE networks both at regional and intra-regional level. MIUR, now MIM, is always informed about the developments of the coordination of the CoVE.

To date, the organization of Italian 3LoE COVE has followed a matrix logic, in which each partner has been involved in the implementation of the actions assigned to them, as foreseen by the initial 3LoE project.

In the future, a co-participatory coordination structure could be defined. The coordination board should be responsible for the annual plan actions, supporting the exploitation of 3LoE results at different regional levels, increasing visibility and effectiveness of the 3LoE Italian network, promoting specific actions on the 3 main levels (3 and 4 EQF, 5 EQF, 6 and higher EQF level). Co-participation allows to integrate (or at least share) the different needs of schools (ITA) and businesses (t2i and SFC) in the sustainable development. It would also be appropriate to expand the coordination board of the presence of new partners (SSSA, UNITUSCIA, etc.)

About the monitoring of activities in the 3LoE project, we monitor the state of the art of each task with the activity plan and the deadlines shared with the project leader. Internal alignment takes place through periodic calls and a shared chat that is always active.

Funding and Sustainability

Structural EU funds might be useful to support CoVE and develop further networks in other Italian regions, in particular the Programma Operativo Nazionale (PON) of the MIM and the Cohesion Funds for the next programming period: https://opencoesione.gov.it/it/lavori_preparatori_2021_2027/

The partnership will keep monitored and will share among participants the opportunities provided by EU funded projects.

Also, considering the good collaboration with UNIONCAMERE the Italian system of the Chambers, a further collaboration is beneficial and furtherly analyzed and discussed.

As seen before, PON and other EU structural funds, recovery Fund will be sought.

Moreover, considering some testing realized thanks to the project, some products (courses, activities) may be offered to market with a fee, to Micro and Small enterprises mainly- i.e. Energy Service Manager Curriculum and Cradle to Cradle KAIN method testing.

An objective, ambitious but that would be worth sharing with all the members of the CoVE, would be the creation and continuous updating of a web portal that allows the collection of opportunities, at a national level, for the certification of green and entrepreneurial skills, aimed at orienting students, workers, unemployed.

For example, for other projects, t2i made use of this web portal also as a repository both for internal and for external purposes: see <https://www.entribu.eu/en>

CoVE Focus Areas

Our CoVE activities cover the following sectors: Agriculture, Manufacturing (building construction), Entrepreneurship, Green skills and dual education in agriculture, building construction, entrepreneurship; EU mainframes: ENTRECOMP, DIGCOMP and GREENCOMP.

Curriculum, Teaching and Learning

The focus of our teaching - learning activities are the following:

- promotion of entrepreneurship based on innovation in the agricultural/agribusiness supply chain in SME.
- fundamentals of the circular economy.
- animal welfare.
- techniques of organic farming.

- use of drones in agriculture.
- vertical farming;
- training for SMEs: energy Efficiency and Renewable Energies; management of SMEs for work in the Green Economy; technologies of the circular economy; management of sustainable economic activity; conducting manageable R&D Projects for SMEs; training Enterprise and Entrepreneurship in Green Economy; “GPP - Green Public Procurement” and “Industrial Symbiosis”.

The training offer of CoVE Italia will be oriented according to the request of the stakeholders connected to each partner. The high transmission capacity of technological innovation will be ensured by the high level of R&D of the trainers belonging to high profile institutions such as the Scuola Superiore Sant’Anna di Pisa, “La Sapienza” University of Rome, the University of Tuscia and the University of Padua. The updating of trainers and the skills market will be constantly monitored by the CoVE through the development of an observatory (detailed in the next question).

The COVE could work as a privileged observatory on the correlation between education/training and the need for sustainable growth and development of the territory: update on Excelsior Data; transnational mobility programs for the exchange of good practices; national mobility programs for the exchange of good practices; comparison with the regional employment agencies and with the professional training departments of the regions; training dedicated to Green-Comp, DigComp and EntreComp frameworks.

Support for Trainees

Over the years, we have developed MATES, a monitoring and benchmark model for the state of sustainability applied in companies, also monitoring the development of green skills at a managerial level.

This tool, together with further tools shaped on sectoral characteristics, is used to guide companies in the sustainable development plans that the company (and the employees) can undertake.

The underlying methodology involves a coherent development of the organization and people's skills to implement a sustainable growth path.

The Chambers offer to local companies’ assessments for digital maturity and sustainability processes development, id ZOOM 4.0 tool

COVE can take advantage of the experience gained by the chamber of commerce system with particular regard to supporting young people, women and migrants in starting up businesses. Inclusion has always been a central theme in our school and this awareness is expressed in an educational leadership that, dealing with local issues in a global perspective, implements educational policies of governance and management attentive to the development of an educational and training climate in which all pupils feel accepted, recognized and with the same opportunities to access meaningful learning. The participation in the project and the input from partners promoted significant improvement in our awareness about the importance of the Learning by doing as a didactical approach based on practical and active experience in order to achieve inclusion for students with disabilities and to facilitate the transitional process from school to work. Practical ideas and guidelines for adapting the environment, curricula and organizational procedures and practices are given too teacher, at school, such as:

- Flexibility in programming and delivering curricula (adaptation when necessary, starting from individual strengths and weaknesses); 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.

- Cooperative learning (as much as possible), flipped classroom, circle-time. Organization and planning (environment and time are relevant factors, the teacher is often only a facilitator, the most relevant part to do is the before the lesson, preparing materials and the learning settings. During the lessons, is very important to make pauses, to take a break).
- Promoting well-being and a positive climate (always): strategies of counselling, coaching, mentoring are requested for all the teacher (very often, interpersonal skills are as relevant as disciplinary contents in the teaching process and emotional control, tolerance of frustration are necessary to give efficiency to the teaching process).
- Provision of learning support (reasonable adjustments to learning and assessment materials); organizational structure to allow direct service provision for students with disabilities (mentors, qualified support teacher/consultants, self-managing disability service team).
- Increasing the level of collaboration, involving all the teachers, inside the school and outside the school (external trainers from university, researchers and technologist, technician) to collaborate and plan together, in order to enrich the curriculum and better meet the needs of all the students, with a view to greater efficiency, relevance and quality of teaching, as it suggested by the European framework.
- Empowering teachers and learners so that they are able to take an active stand against all form of discrimination thanks to positive and trusting relationships.
- Ensuring a continuous work of communication and dissemination through interviews, round table discussion and meeting with relevant stakeholders (policy makers, major television networks, local and national newspapers).

Cooperation with Industries

The Italian COVE with its partners is able to carry out an effective reading of the training needs of companies and to provide an adequate response in terms of lifelong learning and specific interventions, often also financed:

- integrate skills between frameworks, also for orientation purposes.
- transversal topic: monitoring the sustainability status of companies, in particular in SMEs to be connected with the monitoring of students' green skills.
- orientation towards green skills.
- Contacts Polytechnic of Milan - Fondirigenti MATES project - sustainability tool.
- Projects for the recognition of skills acquired in non-formal and informal contexts, to support 'self-made' collaborators.
- collaboration with companies to overcome the mismatch circle from bottom: outdated curricula, - lack of appropriate vocational skills, - low productivity and/or lack of production, etc.

The ITA E. Sereni has implemented a collaboration with the company Horto Mio S.R.L., which has installed a hydroponic greenhouse 4.0 within the institute for the implementation of an in situ dual training. This collaboration includes a series of experimental and hands-on educational activities focused on the management of a digital greenhouse 4.0, with related use of integrated digital technologies, and the production of edible plant species raised using above-ground techniques. The activities will be carried out by ITA "Emilio Sereni" teachers with the collaboration of professors from the University of Tuscia in Viterbo (UNITUS), researchers and technologists from the Council for Research in Agriculture and Analysis of Agricultural Economics (CREA) and technicians from HortoMio S.r.l. At the end of the experimental course, lasting two school years, students will receive a certificate of special training.

t2i has a vast collaboration with companies, from the start-up phase to the alignment to the market needs, mainly focusing on digital and green transformation. Also, a focus is fostering new business ideas making dreams come true.

Given SFC's founding mandate as an entity for the delivery of training and the definition of services to support the sustainability journey of manufacturing enterprises in Italy, SFC interacts stably with companies in the manufacturing sector in Italy.

As part of 3LoE initiatives, SFC has interacted with companies, mainly of the construction sector, to adapt 3LoE's 5EQF training pathways to their specific needs.

In 2024, the inclusion of the Scuola Superiore Sant'Anna di Pisa in the partnership structure of the 3LoE COVE will strengthen the applied business research initiatives which SFC is in charge of.

The specific industries aligning with your CoVE objectives and programs are:

- 1) digital and green agriculture;
- 2) building and construction sector;

Working together with these industries:

- We can scale up our proposals to other targets and industries.
- We can consider topics valorising different perspectives.
- With the collaboration of universities we can guarantee a scientific approach to our proposals;
- We can give support to connect secondary school, university, ITS Academy and job market, building a concrete bridge between school and the world of work, enhancing didactic paths.

Research and Innovation

To drive innovation in vocational training we plan to implement our research and innovation activities as described.

We can further develop the testing of specific curricula in the topics fostered by the three main frameworks such as ENTRECOMP, DIGCOMP and GREECOMP.

We can develop further testing in the certification of competences in other projects.

We can valorize the variety of the partnership, including universities to explore and foster the topic of micro and macro credentials.

Collaboration and networking

The implementation of COVE followed the work plan agreed with lead partner and adapted to the territories and target audience needs for the development of green skills.

Information and awareness-raising activities on the emergence of green skills and the way the 3LoE CoVE works at EU, national and local level were carried out, addressing the public authority's target. Appreciation and interest were received from the Ministry of Education (MIM or Ex MIUR), Lazio Region, and Ministry of Agriculture.

All COVE Italy partners activated an intensive networking enabling a widening consensus on the COVE 3LoE goals. Stakeholders of the University (i.e. University of Tuscia, University of Padua, School of Advanced Studies Sant'Anna) and Research system (i.e. CITERA-Interdepartmental Research Centre Territory Building Restoration Environment, Council for Agricultural Research and Analysis of Agricultural Economics), umbrella organizations of the school system (Re.N.Is.A.), network of VET Providers specialized in the delivery of 5 EQF training (CIS, ECOLE, Fondazione ITS Meccatronico del Lazio) and Chambers of Commerce (Unioncamere), public administration (Lazio Region) were involved in the realization of COVE Italy activities.

Involvement of MIUR in the part of the Directorate General for Education Regulations (Schools, ITS, Universities and Research), which has entrusted ITA "Emilio Sereni" with the coordination

of the COVE, after consultation with SFC. MIUR, now MIM is always informed about the developments of the coordination.

Outside the 3LoE consortium we cooperate with the following network partners:

- ANCE Associazione Nazionale Costruttori Edili (Business Organisation - Building Sector);
- Fondazione ITS Meccatronico del Lazio (VET 5 EQF);
- SSSA Scuola Superiore Sant’Anna di Pisa (University);
- ECOLE Enti Confindustriali Lombardi per l’Education (VET);
- UNISmart - Fondazione Università di Padova (University);
- ESEV-CPT Verona - Centro paritetico per la formazione, la sicurezza e i servizi al lavoro di Verona (VET);
- ANCE Verona - Associazione Costruttori Edili Verona (Business Organisation - Building Sector);
- CIS - Scuola per la Gestione di Impresa (VET);
- CITERA - Centro di Ricerca Interdipartimentale Territorio Edilizia Restauro Ambiente (Research Centre);
- Regione Lazio (Region);
- Università degli studi della Tuscia (University);
- CREA - Consiglio per la ricerca in agricoltura e l’analisi dell’economia agraria (Research Centre);
- Re.N.Is.A. - Rete nazionale degli Istituti Agrari (School Cluster);
- Unioncamere - Unione italiana delle Camere di commercio, industria, artigianato e agricoltura (Chambers)

To involve local/regional/national education and decision makers we have organized the following events:

a) Job Orienta Meeting, an Annual Exhibition focused on school and work orientation, November 24-26, 2022, and November 22-25, 2023, Verona. 200 persons involved - mainly college students, chamber executives.

b) Didacta Italy Fair, the most important meeting in Italy about school and innovation, an important place of encounter and exchange dedicated to teachers, school directors, companies and association, committed by the Ministry of Education in collaboration with INDIRE (National Institution for Research and Innovation for the Italian school), 08-10 March 2023 and 20-22 March 2024 (next edition), Florence; 50 person involved- the students and professors of the college level .

c) Re.N.Is.A. Meeting: a National Network of more than 290 Agrarian Technical High School, coordinated by our Principal, Patrizia Marini, Grosseto 27-28-29 April 2023; 350 people/participants involved – students and professors of the college level.

d) Inauguration conference of hi-tech hydroponic greenhouse 4.0, 21 September 2023; 200 people involved: Ministry of Instruction, Councillor for Agriculture, Canadian Embassy, Ambassador of Canada, Regional school Office Director and Municipality of Rome.

Policy Advocacy

In Italy there is a regional development strategy "to provide citizens and businesses with easy access to high quality information, efficient procedures and effective support and problem-solving services in relation to Union and national standards; just in these months the Italian Minister of Education Valditara, in agreement with the regions, launched an experimental program, based on a dual system, implemented as a *four + two years* program, called ITS Academy System. This is a useful opportunity to bring together in a single web portal the entire offered training (issuing EQF), of the 146 ITS Academy present on the Italian territory, in the

awareness that this will be an important opportunity of visibility for the same Foundations and of growth of the Tertiary System of Higher Technological Education established by Law No. 99 of July 15, 2022.

Currently there is no legal/policy framework or development strategy to regulate the CoVEs. There is only the ITS Academy which is regulated and on which the Minister of Education Valditara is working.

Our CoVE collaborates with policymakers at different levels. There are continuous meetings at all levels among the national network of Technical Agricultural Institutes “Re.N.I.S.A” which facilitates institutional meetings. The ITA “Emilio Sereni”, being the leader of Re.N.I.Sa, collaborates: 1) at the state level with the Ministry of Education, the Ministry of Agricultural Policies, as well as with the Parliament; 2) at the regional level with the Lazio Region's regional department of labour, education and agriculture; 3) at the municipal level with the Rome municipality, department of labour, education and agriculture.

t2i has a steady collaboration with the regional offices for education, orientation and labor marked, being formally accredited entity and managing activities in the Veneto region.

Strengths and weaknesses

Strengths:

- width and variety of the partnership.
- level of experience of the trainers and institutional relevance of the partners involved.
- possibility of involving in the COVE other stakeholders, public bodies, enterprises.

Weaknesses:

- complexity of managing the activities and the partnership itself.
- labor precariousness of the Italian school system.
- different types of budget management (school=public; t2i/SFC=private companies).

6.5 Country Strategy for COVE Latvia

Country information

CoVE Latvia encompass 4 institutions:

Liepaja State Technical School (LVT)

Latvian Chamber of Crafts (LAK)

Riga Stradins University (RSU)

National Centre for Education (VISC)

CoVE Governance

CoVE Latvia lead partner is Liepaja State Technical School. In the project LVT and Latvian Chamber of Crafts represent 1st and 2nd level CoVE and are responsible for vocational education and further education. Riga Stradins University being responsible for higher education represents 3rd level. VISC as Ministry of Education and Science agency provides political level support on all levels. Latvian CoVE operates on a national and regional level.

When the 3LoE project was launched the composition of Latvian partners changed as the VET partner dropped out and another VET institution and the Ministry's agency stepped in. Consequently, the CoVE composition deviated from the original concept. Additional efforts were necessary to identify shared areas for collaboration among the participating partners. LVT focuses more on the development of STEM fields, Stradiņš University – on International Business and Sustainable Economy, and the Chamber of Crafts – on craftsmen. To ensure more efficient coordination and collaboration additional partners should be involved to bring in new perspective to the existing partnership (city/ regional municipality, regional university, science centre, etc.), e.g., Latvian Chamber of Crafts strives to achieve this by creating partnerships with regional VET schools and inviting students and staff to attend courses organized by LAK.

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

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

Funding and Sustainability

To ensure long-term stability and improvement of the CoVE it is planned to use already existing resources as well as opportunities provided by Erasmus+ and other EU funded programs. Another opportunity will rise with the implementation of education ecosystem in Latvia which will provide access to shared resources for all education institutions.

To ensure the functioning and further development of the CoVE the following support would be welcome: opportunities for staff professional development on a national and international level, financial and policy support, on-going dialogue with and support from industry stakeholders (dual education, on the job training, career guidance, VET staff professional development in companies, etc.)

CoVE Focus Areas

In collaboration with project partners, we are focusing on cooperation in the development and enhancement of entrepreneurship and entrepreneurial skills. In the future, we will continue in this direction while also developing STEM fields, digitalization, and green thinking by engaging collaboration partners in these areas. We will also improve WBL and dual education.

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

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

The program development at the RSU is important due to the changes in the economic environment in the country, tendencies in the demographic situation and labor market. Furthermore, requirements for development of new knowledge and skills demand new and modern programs.

The Green Entrepreneurship and Innovation is relevant to new tendencies in businesses and economy as well as the latest trends in higher education, and labour market education programmes development. This is explained by the content, knowledge transfer and knowledge creation methods, which, in turn, will ensure high quality of study process and study results. The content of the Green Entrepreneurship and Innovation programme and innovative implementation methods will develop knowledge, skills and promote such basic and specialised competencies that will allow graduates to be actively involved in the planning and management of modern international business and green entrepreneurship and innovation. For the development of students' knowledge and skills, the Green Entrepreneurship and Innovation study process will focus on the development of general critical competencies - communication and

digital skills, teamwork, entrepreneurship and leadership development, enriched by process management and business model specifics in healthcare.

The Green Entrepreneurship and Innovation programme will be part of the general direction of the several programmes implemented by the International Business and Economics department titled “Management, Administration and Real Estate Management”.

The Green Entrepreneurship and Innovation programme will focus on educating highly qualified specialists in the field of business management for Latvia, the EU and the entire world community and its management processes. Achieving of this goal will provide students with the opportunity to receive theoretical and practical knowledge, skills and competencies relevant to business and interdisciplinary interaction, using the results of fundamental and practical research in several disciplines, qualified lecturers from academia and business, modern study content and format.

The objectives of the Green Entrepreneurship and Innovation correspond to the needs of economic development and the integrating components of the Latvian Smart Specialization Strategy (RIS3)-including building human capital and public innovation capacity, promoting gradual modernization of the research and education sector, and developing an innovation system to drive public resources for innovation.

Green Entrepreneurship and Innovation will be focused on the first main (vertical) development goal of the RSU strategy - innovative studies in a modern environment, as well as the main horizontal development goals, especially in the sections on sustainable university, twinning for labour market integration and international cooperation.

Curriculum, Teaching and Learning

In CoVE we are focusing our work on lifelong learning by providing services in both professional development and requalification, as well as the recognition of competencies acquired in the workplace. We continue work on program development in accordance with the specific demands and needs of the customer (company, industry, etc.). Teachers acquire new skills and competences participating in professional development activities provided by industry (internships in companies), as well as the further education qualification courses – training of trainers – provided by Latvian Chamber of Crafts.

At the RSU the CoVE members focus on understanding and formulating the objective of the sub- programme/module development concept and to focus on the importance of green entrepreneur orientation and innovation in education and exchange of practical experiences in Latvia and other partner countries involved in the project as well as visions and interrelations between the economy, labour market, demography, and education.

To ensure that offered curricula are in line with current industry trends we work closely with sector expert councils and industry representatives who define learning outcomes, suggest changes to existing programs, offer places for WBL and teacher professional development in company. Company representatives are involved as teaching staff in VET schools. During qualification exams company representatives assess student professional skills and competences. CoVE and industries cooperate to ensure students/employees/teachers opportunity to get acquainted with latest technologies in the field. Company representatives are involved in preparing VET students for participation in SkillsLatvia, EuroSkills and WorldSkills competitions.

Individual craftsmen and SME representatives attend Latvian Chamber of Crafts board meetings to share their input on the current needs of their fields.

CoVE follows the European Commission’s vision of skills development in relation to quality:

- Improvement of basic skills (digital competences, and transversal skills- entrepreneurship, creativity and civic engagement).

- Facilitation of mobility for learners and educators and international cooperation between education institutions.
- Promotion of language learning, multilingualism and support the disCoVEry and management of cultural diversity.
- Enriching education with a European perspective encouraging understanding of and critical thinking about what Europe means in regard to citizens’ daily lives.
- Ensure that education and training institutions are safe, inclusive, and disinformation-free.

Developing comprehensive teacher/trainer continuing professional development programs is crucial for equipping educators with the diverse skill set needed in modern education. These programs should encompass a wide range of subjects, including the acquisition of soft skills, entrepreneurial skills, digital skills, green skills, and fostering inclusivity.

Soft skills, such as communication, critical thinking, and teamwork, are integral in enabling educators to effectively engage with students/trainees, understand their individual needs, and create a positive learning environment. Entrepreneurial skills empower teachers/trainers to cultivate creativity, problem-solving, and an innovative mind-set, fostering an entrepreneurial spirit among their students/trainees.

Given the increasing integration of technology in education, digital skills are paramount. Teachers/trainers should be proficient in utilizing educational technology, online platforms, and digital tools to enhance teaching methods and facilitate personalized learning experiences. Furthermore, embracing green skills is essential in educating students/trainees about environmental sustainability, conservation, and ecological awareness, preparing them to be responsible global citizens.

LVT has hosted staff internships and conducted professional development seminars for the staff of other vocational training institutions.

In the framework of the CoVE in Latvia special attention will be paid to the provision of innovative approaches to the implementation of studies in an up-to-date learning environment, which includes:

- regular discussions on design and study course descriptions with lecturers and external experts from both academic and industrial environment in Latvia and abroad.
- identification and updating of teaching material and technical support required for study courses, including literature and other modern-day materials (computer programs and applications, business games, video materials, interactive online tools).
- identification and inclusion of knowledge transfer and co-creation methods in the implementation of new and relevant to the CoVE tasks study courses.
- identification of interdisciplinary issues, creation of thematically relevant content, successive integration into study courses.
- organization of lecturers' experience exchange, active and wide use of e-learning and interactive online environment tools, attraction of guest lecturers, study visits to companies.
- practice-oriented cooperation with employers in the basic study process (in addition to guest lectures, solving business problems in the study process will also be organized, for example, in the development of final theses), which allows bringing studies closer to practical business.

Support for Trainees

The Education Development Guidelines (2021 – 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 labor 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.
- 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.

Every VET institution in Latvia designs their mid-term development strategy describing the goals, strategic priorities, values and work directions for the following 7 years. 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.

There is a career counsellor position at Liepaja State Technical School. The work is aimed not only at initial vocational education participants but also at adults, encompassing all LVT target audience groups. The infrastructure of LVT allows everyone to participate in receiving educational services.

Latvian Chamber of Crafts provides equal access to its services for all willing course participants who meet the criteria of necessary experience in the field. Qualification opportunities are the same regardless of gender. In fact, in the recent years there has been an increasing number of persons qualifying for the journeyman or master craftsman qualification outside the stereotypical gender norms, such as female chimney sweepers.

Cooperation with Industries

The work with industries takes place in several directions:

- professional development activities organized for teaching staff and company tutors.
- development and updating of modular programs.
- development of tasks for qualification exams and assessment of student competences during the exam.
- career guidance.
- providing work based/dual education opportunities for students.
- implementation of international mobility.
- validation of skills acquired in non-formal education.
- cooperation in organization of skills competitions for students.
- promotion of VET excellence.

Latvian Chamber of Crafts individual craftsmen and SME representatives participate in Latvian Chamber of Crafts board meetings to share their point of view. The trainees of LAK work with craft masters.

The specific industries that align with Latvian CoVE are mechanic, construction, energy industries, and woodworking.

Overall, the collaboration between VET schools and industry is a win-win situation, aligning educational goals with the practical needs of the workforce, thereby benefiting students, industries, and the larger community. VET schools and industry collaboration can offer a lot of opportunities and benefits for both parties involved, e.g., industry collaboration ensures that VET programs stay updated with the latest industry practices, technologies, and demands. This helps students acquire skills that are directly applicable in the current job market. Working closely with industry allows VET schools to tailor their curriculum to the needs of employers,

thereby enhancing the employability of their graduates. Students gain practical, real-world experience and relevant skills that make them more attractive to potential employers. Industry partnerships can offer work placements, internships, or apprenticeships, providing students with hands-on experience in actual workplace settings. This exposure can be invaluable for their future careers. Industry collaboration can foster innovation within VET schools. Partnerships might involve joint research projects, allowing for the development of new technologies, methods, or practices that benefit both education and industry. Industries can provide VET schools with resources such as equipment, technology, or even financial support, enhancing the quality of education and the learning environment. Collaborating with industry allows VET educators to stay updated with industry trends and practices, enhancing their teaching methodologies and professional development.

Research and Innovation

Our research and innovation activities are implemented in the following directions: digitalization, and entrepreneurship; work environment-based teaching methods, knowledge transfer. To support academic and professional activities there is a strong need to build research foundations by fostering CoVE members' participation in research and practical conferences, seminars, round table discussions. The CoVE members during last years of the 3LoE project implementation have been very active with respect to local and international events. Research related to the Green entrepreneurial developments have been conducted by the CoVE members as well as by students under the supervision of academic staff members.

Furthermore, CoVE members have been publishing articles in prominent research journals and books. For example, in 2023 CoVE members were involved in the following research activities:

- an article by Sergejs Stacenko, Tatjana Muravska and Līga Briķena (2023) "Building the Road to Green Entrepreneurial Orientation in Higher Education and Research: Sharing Experience and Looking Ahead" published in a publication "The EU Green Deal and Its Implementation" prepared by Prof. Dr. Lydia Scholz and Prof. Dr. Christiane Trüe (eds.) pp. 187-214. Nomos, Baden-Baden, Germany ISBN: 978-3-98542-045-2.

International Seminar: Hanseatic City of Riga between Worlds & Times: Innovation & Economy in Transition, held in Riga on September 9th, 2023:

- *Latvia on the Road to the EU and EMU. Economic Integration Maturity*, T. Muravska;
- *Transport Sector in Latvia: Transit. Ports. Rail Baltica*, S. Stacenko;
- *Real Estate Market and Construction Sector Dynamic*, L. Briķena.

International Conference: Academia, Administration, Digitalization and Sustainability/ University of Applied Sciences Bremen 31st August 2023 – 1st September 2023. Bremen.

- *Cross-fertilization between EU Green Policies and Instruments, Applied by Public Management*, S. Stacenko, T. Muravska, L. Briķena.

International Conference. Riga, RSU "PLACES" 31 March, 2023.

- *A University-Business Alliance in Strengthening Green Transition and Green Entrepreneurship*, S. Stacenko, T. Muravska, L. Briķena.

Academic staff members actively work together with students on their research projects in which students study green economic and business developments and present a comparative assessment of the main trends in Latvia and EU Member States. Partners from different sectors of the national economy and business are involved in the students' research projects.

Collaboration and networking

Local and Regional Level:

Collaboration with Companies: CoVE establishes cooperation agreements with local companies and employers to create a bridge between education and the real - work environment.

These agreements allow learners to gain practical experience and examples of good practices. This collaboration often includes internships, apprenticeships, or industry visits.

Workshops and Seminars: CoVE organizes workshops and seminars with local businesses to exchange knowledge and practices. This facilitates a two-way exchange of information where CoVE can adapt its curriculum to meet the needs of the local job market, and companies can benefit from a skilled workforce.

National Level:

Government Partnerships: CoVE form partnerships with government agencies responsible for education and workforce development. These partnerships help aligning the CoVE's programs with national educational and economic policies.

EU Level:

Implementation of Erasmus+ Program: CoVE utilize Erasmus+ program funds, providing opportunities for learners, educators, and staff to acquire knowledge and experiences outside their country. This international exchange program allows individuals to immerse themselves in different cultures, work environments, and provides different perspective.

EU Funded Projects: CoVE participate in EU-funded projects aimed at promoting vocational education and training. These projects often involve collaboration with other European educational institutions and businesses, enabling the sharing of best practices and cross-cultural learning.

Policy Advocacy

Latvian Education Development Guidelines for 2021-2027 highlight that teaching and learning process involves an increasingly wide range of different interested parties - non-governmental organizations, the private sector, various community groups, etc., to offer diverse learning opportunities, content and approaches, resources and technologies. Thus, new partnerships, cooperation networks and forms are developed between educational institutions and other involved parties, between public and private sector. Targeted cooperation between general, vocational and HE institutions is essential in this regard, including development of shared resources. Likewise, educational or research processes and the institution itself is an essential part of a wider local scale ecosystem - the community - not isolated and separate functioning unit. Such an integrated view forms the basis for more effective use of local community resources for educational purposes as well as education transfer and use of knowledge created in institutions for the benefit of local society.

In October 2022 the Parliament of Latvia amended the Education Law by introducing a new concept - local government education ecosystem. It is a system created by a local government in order to ensure the knowledge, skills, and attitudes necessary for the inhabitants throughout their lives. The local government will develop a set of authorities working under its leadership and supervision in a purposeful way by cooperating in the field of education with local government, private and public educational institutions, employers, social partners, non-governmental organizations, other local governments and educational institutions located in its territory, coordinating the implementation of education in all educational programs and at all levels.

CoVE is an integral part of local ecosystem and contributes to its cooperation in various ways, e.g., by sharing expertise of its human resource, physical environment, equipment, train workforce for regional labor market needs, providing life-long learning opportunities for the region, is active player in providing career education opportunities.

At present there is no specific framework or strategy regulating CoVEs. However, by introducing local government education ecosystem this can be regulated on a local level.

The CoVE partners collaborate with policy makers and relevant stakeholders while implementing new approaches to education and new study courses and activities in the green economy,

business and innovation. Cooperation with relevant stakeholders at local, regional and national levels helps to understand better needs of local business, economic trends and positions of policy makers.

Representatives of Latvian Chamber of Crafts are invited to various industry councils and working groups, where they can share their experience in the field and influence the outcome of the discussion.

In Latvia there is a well-established systemic social dialogue. With the aim to improve coordination between education and employment policies both for initial and continuing vocational education and support the involvement of employers in education development and delivery, in July 2016, the Minister of Economy, the Minister for Education and Science, and the Minister for Welfare established the Employment Council – meeting regularly, usually at monthly basis. The Tripartite Sub-Council for Co-operation on VET (PINTSA) meets on regular basis to discuss better linkage between education and employment policies in concrete terms, with a particular emphasis on apprenticeships.

VET institutions as stipulated by VET Law have established advisory bodies – Conventions - where the local and regional aspects of VET and apprenticeship developments are regularly discussed. In the Conventions the VET institution’s administration, local or regional employers, local and national government organizations are represented to better coordinate the local/ regional and national priorities for better education and employment/ labor market compliance. In Latvia a strong social dialogue exists at various levels – VET institution, local and regional level, sector level, ministerial and social partner level. The social dialogue refers to various aspects - the drafting of legal framework, development of standards and curriculum, compliance to labor market demands, determining the priority areas, incentives to the involved parties and also to graduate tracking.

It should be noted that the Tripartite Sub-Council for Co-operation on VET (PINTSA) is an instrument allowing for an immediate reaction for identified problems or challenges, since all the three sides of the dialogue are involved and present and are accountable to the Employment Council. Any issue that is raised can be included in the Agenda of the Council meeting, and if necessary, included repeatedly – until the partners agree on a common beneficial solution. Above all – if the issue has a high-level policy context, the Employment Council discusses it among the three relevant ministers of education, economy and employment, thus allowing for solutions at a high policy level.

This allows to conclude that the existing institutional mechanisms are well designed for addressing apprenticeship issues at all levels and on all relevant components, allowing for taking necessary decisions and follow up the processes.

Strengths and weaknesses

Strengths

- Local Relevance – CoVE is tailored to the specific needs of the local job market and industries. They offer programs and training that are in demand and relevant to the local economy, contributing to workforce development.
- European Collaboration: collaboration with European partners and institutions, allow the exchange of best practices, expertise, and access to European Union funding for vocational education and training projects. This helps in keeping the education system aligned with European standards.
- Economic Impact: The emphasis on practical skills and hands-on training in CoVEs lead to a more skilled and job-ready workforce, which benefits the economy by reducing unemployment and fostering innovation in various industries.

- Previous experience: Some of the courses implemented within the project have roots in previous trainings offered by the partners, guaranteeing quality education provided by experienced lecturers.

Weaknesses

- Number of shared collaboration areas for the partners. However, with time, experience and communication, more collaboration opportunities definitely can be developed.

6.6 Country Strategy for COVE Lithuania

Country information

CoVE Partners:

- Verslo ir svetingumo profesinės karjeros centras / VESK,
- Panevėžio prekybos, pramonės ir amatų rūmai / PCCIC,
- Panevėžio kolegija / PANKO.

CoVE Governance

The center of vocational excellence Lithuania (CoVE LT) is established as a cooperative network consisting of 3 different institutions: Vocational school – VESK, Chamber – PCCIC, College - PANKO

The partners of the CoVE LT are active in all three levels:

- VESK is a vocational school that implements dual vocational trainings and further trainings at EQF Level 3–5.
- PCCIC as a representative of Chambers of Commerce, Industry and Crafts act as a cooperating body for professional education at EQF Levels 3-6, carrying out vocational trainings and further trainings, examinations, consultations, and in particular representing SMEs, advising and integrating them as training partners for dual education.
- PANKO is a higher education organisation which implements dual Bachelor programmes and innovation projects for SMEs at EQF Level 6. They also participate in the development of curricula and new learning methods, provide lecturers, trainings for teachers and managers of VET schools, etc.

The CoVE LT is coordinated by VESK (Business and Hospitality Training Centre). The CoVE LT operates in the regions of Vilnius and Panevėžys, where it builds skills ecosystems conducive to innovation, regional development and social inclusion, as well as interacts with centres in other countries through international cooperation networks.

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

More efficient coordination and collaboration could be ensured by implementing the following strategies:

Advisory Boards: Establishing an advisory board with representatives from various industries and sectors could provide valuable guidance, insights, and feedback to ensure that CoVE activities remain relevant.

Regular progress updates and feedback mechanisms: could help to review ongoing projects, address challenges, and celebrate achievements. Such sessions keep everyone on the same page and provide a platform for addressing concerns.

Collaborative Decision-Making: all stakeholders should be involved in decision-making processes, especially those that affect the CoVE's strategic direction, curriculum development, and industry partnerships.

Cross-Functional Teams: Forming cross-functional teams composed of representatives from different areas within the CoVE, including education, industry, research, and administration, would facilitate its operation. These teams can work together on specific projects or initiatives.

Shared Resource Allocation: Coordinating the allocation of resources, such as funding, facilities, and equipment would help to ensure equitable access and optimal utilization among all stakeholders

We are applying a combination of qualitative and quantitative assessment methods to monitor the improvement and evaluate the impact of the CoVE LT activities:

Surveys and Interviews to collect feedback: We collect feedback from various stakeholders, including students, trainers, employers, etc. Surveys and interviews provide insights into the quality of training, relevance of skills, and overall satisfaction.

Quality Assurance Processes: Each CoVE LT partner has established internal quality assurance processes to review and assess the design, delivery, and outcomes of training programs. They regularly evaluate curriculum, teaching methods, learning resources, etc.

Data Analysis / Internal Audit: Data related to student performance, enrollment trends, feedback, and other relevant metrics is regularly analyzed to identify patterns and areas for improvement.

Benchmarking: We are trying to compare the CoVE's performance against similar institutions or programs to identify areas of improvement and best practices.

The mechanisms that we intend to implement in the long run of the CoVE's activities:

Performance Indicators: We plan to define key performance indicators (KPIs) that align with the CoVE's objectives. These could include metrics like student enrollment, completion rates, placement rates, employer satisfaction, industry partnerships, and the number of innovative training programs developed.

SMEs / Industry Partnerships: We intend to assess the depth and impact of partnerships with SMEs and industries. Measure the extent to which CoVE programs have influenced industry practices, technologies, or workforce development strategies.

Case Studies and Success Stories: We will collect and showcase success stories of graduates who have excelled in their careers after completing CoVE programs. These narratives can demonstrate the real-world impact of the CoVE's activities.

Continuous Improvement Framework: We are working on implementing a structured continuous improvement framework that involves regular reviews, action planning, and adaptations based on feedback and data.

Funding and Sustainability

There is no national funding programme for CoVEs in Lithuania.

Funding of the EU initiative on Centres of Vocational Excellence can be used for the development of COVEs.

Now we mainly use EU funding and partially private or national resources.

The specific support needs of our CoVE will depend on its mission, goals, size, and focus area in the future. The combination of the following is essential for sustaining operations and growth of the CoVE LT:

Financial Support: Funding for various activities, including curriculum development, training provision, infrastructure maintenance, and collaborative projects.

Policy Support: Policies at the regional, national, or international levels that promote collaboration between educational institutions, industry partners, and research organizations to create a favorable environment.

Consultation and Advice: External consultation and advice from experts in education, industry leaders, and policymakers to help in strategic planning, curriculum design, and aligning programs with industry needs.

Professional Development: Continuous professional development for the CoVE’s staff to keep it up-to-date with the latest teaching methods, industry trends, and technological advancements.

Infrastructure and Technology: Investment in infrastructure, modern laboratories, and up-to-date technology is essential for delivering high-quality vocational education and training programs.

Quality Assurance and Accreditation: Support for quality assurance mechanisms and accreditation processes can help CoVEs ensure that their programs meet established standards and are recognized by employers and regulatory bodies.

International Collaboration: Support for international collaboration can help CoVEs engage in cross-border partnerships, share knowledge, and offer global perspectives in vocational education.

CoVE Focus Areas

Activities of Lithuanian CoVE cover the following sectors: engineering technologies, construction, utilities, tourism, food industry, health care and social assistance, hospitality, beauty services, IT, education, etc.

The focus areas will be green skills, entrepreneurship, emerging technologies, digital skills and dual education.

Curriculum, Teaching and Learning

The focus of our teaching-learning activities is on providing high-quality education and training in Initial Vocational Education and Training (IVET), Continuing Vocational Education, Higher Education (HE). We strive to make our study programs and courses relevant to the labour market, ensuring that our learners are equipped with the necessary skills and competencies that are in demand by employers. The comprehensive provision of green skills is a key priority of our study programs and courses. Our approach emphasizes lifelong learning, ensuring that individuals can continue to acquire new skills and knowledge throughout their careers. Additionally, we offer professional development programs for teachers and trainers to enhance their skills and knowledge.

To ensure that our CoVE's curricula remain aligned with current industry trends and technological advancements, we employ a comprehensive approach encompassing the following strategies:

Industry Collaboration: We maintain strong partnerships and collaborations with local industries and employers. This allows us to stay updated on the latest trends, technological advancements, and skill requirements in the job market. Industry representatives actively participate in the development of study programs and courses, providing valuable insights into the skills and competencies needed in the workforce.

Collaborating with industries and employers through CPD programs can provide teachers with insights into current market demands and employer expectations. Teachers and trainers should stay informed about the latest developments and trends in the vocational sectors they are teaching. Regular workshops, seminars, and industry visits can help them understand current practices and emerging technologies. Industry partners can offer guest lectures and workshops, sharing their expertise with teachers.

Regular Study Program Reviews: Our study programs undergo regular reviews and updates to incorporate new developments and changes in the industry. We continuously assess the

relevance of existing courses and identify areas for improvement or the introduction of new courses to meet industry demands.

Continuous Professional Development: Our teachers and trainers participate in continuous professional development programs to stay updated on the latest industry practices and technological advancements. This ensures that they can deliver up-to-date and relevant content to the trainees, enhancing the quality of education provided.

Internship Quality Strengthening: We recognize the importance of high-quality internships for our students. By offering meaningful and skill-enhancing internship opportunities, we ensure that our students gain valuable learning experiences, acquire relevant skills, and are better prepared for the job market.

By effectively implementing these strategies, we ensure that CoVE LT offers up-to-date and marketable skills that align with current industry trends and technological advancements. This preparation equips our trainees for successful and rewarding careers in their chosen fields.

Continuing Professional Development (CPD) for teachers and trainers is crucial to ensure that their teaching remains relevant and aligned with the ever-changing demands of the vocational sectors. Here are some important elements to be included in teacher/trainer CPD:

Pedagogical Training: CPD should focus on improving teaching methodologies, instructional strategies, and assessment techniques. Teachers should be trained in using innovative and effective teaching approaches to engage students and enhance their learning experiences.

Technology Integration: As technology plays a significant role in various vocational sectors, CPD should include training on how to integrate technology effectively into teaching. This includes using educational apps, online resources, and e-learning platforms to enrich the learning process. CPD should emphasize effective assessment strategies, including formative and summative assessments, to ensure that teachers can gauge students' progress accurately and provide timely feedback.

Soft Skills Development: Vocational education is not just about technical skills but also about developing soft skills like communication, teamwork, problem-solving, and adaptability. CPD should include activities that enhance teachers' ability to teach and assess soft skills.

Professional Learning Communities and Peer Collaboration: Encouraging teachers to participate in professional learning communities and peer collaboration can be beneficial. Sharing best practices and experiences with colleagues can foster creativity and continuous improvement.

By incorporating these elements into CPD programs, teachers and trainers can enhance their skills, knowledge, and teaching practices to meet the dynamic demands of vocational sectors and better prepare their students for successful careers.

Support for Trainees

We are committed to providing comprehensive support services to our trainees to ensure their success in both their vocational education and career pathways. We achieve it by the following:

Career Counselling: We have dedicated career counsellors who work closely with trainees to understand their interests, strengths, and career goals. Through individual counselling sessions, they help trainees explore various career options, identify suitable vocational paths, and create personalized career plans. Our institution actively collaborates with employers and industry partners to facilitate job placement for our trainees. We assist trainees in finding suitable employment opportunities and provide guidance in job applications.

Academic Support: academic support for students is provided at the institutional, academic unit, Study programme committee and module (subject) levels. During the first days of the academic year, the information week is organized for first year students, during which the new students, having joined the academic community, are introduced to the study structure, forms

and methods of assessment of studies and study learning outcomes, credit system of study modules (subjects), as well as the system for crediting partial study learning outcomes and recognition of competencies acquired in formal and informal ways, access to the resources needed for studies, opportunities for international mobility, extracurricular activities and the activities of the Student

Scientific Society. Relevant information is received personally by each student in an email box administered by the institution. The tutorial system has been developed: up to 10 per cent of the hours projected in the module (subject) are allocated to student tutorials, both individual and group tutorials are carried out, teachers advise students through direct contact or mixed methods, using the virtual learning environment Moodle and the videoconferencing tools.

Mentorship Programs: We have established mentorship programs where experienced professionals from relevant industries act as mentors to our trainees. Mentors offer guidance, share industry insights, and provide valuable career advice, helping trainees make informed decisions and build professional networks. Students play also a crucial role in assisting others in the study process as mentors through encouragement provision, setting realistic goals, directing the helpful resources, creating a comfortable and trusting environment where the mentees feel safe to share their concerns and seek guidance.

Access to Resources: Trainees have access to a wide range of resources to support their learning and career development. These resources include well-equipped libraries, online learning platforms, industry-specific workshops, and guest lectures from industry experts.

Career Development Workshops: We organize regular career development workshops that cover topics like resume writing, interview skills, job search strategies, and professional etiquette. These workshops equip trainees with essential skills to succeed in the job market.

Alumni Network: Trainees become part of our vibrant alumni network upon graduation. This network serves as a valuable resource for networking, career advice, and continued professional development.

Ensuring equal access for all individuals, regardless of their background, gender, age, or abilities, is a fundamental principle of our CoVE. We are committed to promoting inclusivity and diversity, and we have implemented various strategies to achieve this goal:

Flexibility in Learning: We offer flexible learning options, including part-time, online, and blended learning programs, to accommodate the needs of individuals who may have work or family commitments. This allows learners of all ages and backgrounds to access education at their convenience.

Accessibility of physical facilities and learning environments: We make our physical facilities and learning environments accessible to individuals with disabilities. This includes providing ramps, elevators, and other assistive technologies to ensure that everyone can move freely and comfortably within the campus.

Support for Learners with Special Needs: Learners with special needs receive additional support and accommodations to ensure they can fully participate in educational activities. This may include personalized learning plans, extra time for exams, or adaptive technologies.

Financial Aid: The Centre for Studies, Career and Occupation coordinates that every student meeting the established criteria could receive financial support from the State Studies Foundation (social scholarships, state-supported loans, reimbursement of the tuition fee, etc.). This support ensures that financial constraints do not become barriers to accessing quality education.

Anti-Discrimination Policies: We have strict anti-discrimination policies in place to prevent any form of discrimination based on gender, age, race, ethnicity, religion, or disability. Our institution

fosters a culture of respect and tolerance, promoting an inclusive learning environment for everyone.

Gender Equality Initiatives: We actively promote gender equality and strive to eliminate gender bias in all aspects of our institutions. We encourage equal participation of men and women in study programs and leadership positions.

Promoting diversity and inclusion in training programs is a core principle of our institutions. We are committed to addressing the needs of marginalized groups, migrants, and people with disabilities through various initiatives and support mechanisms. Here's how we promote diversity and inclusion:

Inclusive Curriculum: Our study programs are designed to be inclusive and culturally sensitive. We ensure that the curriculum reflects the diversity of our learners and includes content that addresses the needs and experiences of different cultural and social groups.

Specialized Support Services: We offer specialized support services for marginalized groups, migrants, and people with disabilities. This includes providing language support for non-native speakers, cultural orientation programs for migrants, and accessibility services for learners with disabilities.

Sensitivity Training for Staff: Our staff and trainers undergo sensitivity training to better understand the challenges faced by marginalized groups and individuals with disabilities. This training helps them create a supportive and inclusive learning environment.

Accessible Learning Materials: We ensure that learning materials and resources are accessible to all learners, including those with visual or hearing impairments. Digital formats, large print materials, and captioned videos are some of the accommodations we provide.

Inclusive Assessment Methods: Our assessment methods are designed to be inclusive and fair for all learners. We consider alternative assessment formats and provide extra time for learners who need it.

Accessibility of Physical Facilities: Our physical facilities are designed to be accessible and accommodating to individuals with disabilities. We have ramps, elevators, and other assistive technologies to ensure equal access for everyone.

[Cooperation with Industries](#)

Our collaboration and work with industries are essential components of our training programs. We believe in establishing strong partnerships with various industries and SMEs to ensure that our training remains relevant and meets the needs of the job market. Here's how we collaborate and work with industries:

Needs Assessment: We regularly conduct needs assessments in collaboration with industries to identify the specific skills and competencies required by employers. This helps us tailor our training programs to meet industry demands.

Regular Study Program Reviews: Our study programs undergo regular reviews and updates to incorporate new developments and changes in the industry. Our curriculum development process involves industry experts who contribute their knowledge and expertise. They help shape the content, ensuring that it aligns with real-world scenarios and job requirements.

Internship Quality Strengthening: We recognize the importance of high-quality internships for our students. We facilitate internships for our learners with various industries. This provides them to apply their knowledge in practical settings.

Scholarship Programs: provided by industries are an excellent way for companies to invest in education and talent development while supporting students in their pursuit of higher education. Here's how industries typically offer scholarships to students: industries and companies establish their scholarship programs. These scholarships focus on specific fields

related to the industry's interests, supporting students pursuing a degree. Students receive financial assistance, networking opportunities, and potential career paths within the industry. Industryled Workshops and Seminars: We organize workshops, seminars, and guest lectures led by industry professionals. These events expose our learners to industry best practices and the latest developments in their field.

Industry Visits and Tours: Learners have the opportunity to visit industry sites and facilities. This exposure allows them to witness firsthand how theoretical knowledge is put into practice and gain insights into daily industry operations.

Collaborative Research and Development: We engage in collaborative research and development projects with industries to address industry-specific challenges and explore innovative solutions.

Industry Certifications and Recognitions: Our training programs are often aligned with industry certifications and standards. This ensures that our learners acquire qualifications recognized by employers, enhancing their employability. The conformity of the study programmes with business expectations, and the extremely high prospects of equipped specialists in the labour market is also demonstrated by the award of the special quality label "Investors' Forum" of the investors' forum association "Investors' Forum", and by the "Investors' Spotlight" quality label of the foreign direct investment development agency "Invest in Lithuania", the award was granted to the Electric and Automatic Equipment study programme in 2020 and Elektromechanics study programme in 2022.

Continuous Feedback and Improvement: We maintain open channels of communication with industries to receive feedback on our graduates' performance. This feedback helps us continuously improve our programs and ensure their relevance to the job market.

Our collaboration with industries fosters a strong bond between academia and the job market. By staying closely connected to industry developments, we prepare our learners to enter the workforce with the necessary skills and knowledge, making them valuable assets to employers.

Industries that align with the CoVE LT objectives and programs:

Renewable Energy Industry: This industry involves the production and utilization of clean and renewable energy sources such as solar, wind, hydro, geothermal, and biomass energy.

Environmental Protection and Conservation Industry: This industry focuses on sustainable practices, waste management, biodiversity conservation, and environmental impact assessment.

Green Technology and Innovation Industry: This sector deals with the development and implementation of technologies that promote energy efficiency, sustainability, and eco-friendly solutions.

Energy Efficiency and Green Building Industry: This field involves the design and construction of energy-efficient buildings, green architecture, and sustainable urban development.

Green Manufacturing and Recycling Industry: Industries that prioritize sustainable production processes, recycling, and waste reduction efforts.

Digitalization and Smart Technologies Industry: Industries that embrace digital solutions and smart technologies to optimize energy consumption and improve environmental monitoring.

Green Entrepreneurship and Startups: Supporting and fostering startups and entrepreneurs focused on green and sustainable business models.

These industries are in alignment with 3LoE's objectives to promote green skills, sustainability, and environmental protection while enhancing vocational education and training measures. By collaborating with these specific industries, 3LoE can effectively address the challenges of

energy, climate, and environmental protection, contributing to the growth and competitiveness of SMEs in the green economy.

Cooperation with industries offers various opportunities and benefits for both educational institutions and businesses. Some of these opportunities and benefits include:

Enhanced Relevance of Education: Collaboration with industries ensures that the education provided remains relevant and up-to-date. It helps bridge the gap between theoretical knowledge and practical application, making graduates more employable. Working together allows educational institutions to gain valuable insights into the current trends and demands of the industry. This helps in aligning the curriculum with the real-world needs and ensures graduates are well-prepared for the job market.

Industry-led Workshops and Seminars: industry professionals can provide guest lectures, workshops, and training sessions. This exposure enhances the learning experience and provides students with a broader perspective.

Opportunities for Internships: Cooperation with industries opens doors for students to undertake internships. This practical experience is invaluable as it allows students to apply their knowledge in real work settings, making them better-prepared professionals.

Networking and Job Placement: Collaborating with industries facilitates networking opportunities for students. They can build connections with potential employers, increasing their chances of securing job placements after graduation.

Research and Development Collaborations: Joint projects and research collaborations between educational institutions and industries can lead to innovation and advancements in various fields.

Sponsorship and Funding: Some industries may offer financial support, grants, or sponsorships to educational institutions, enabling them to enhance their facilities, resources, and overall quality of education.

Professional Development for Teachers: Collaboration with industries can also provide opportunities for teachers' professional development, keeping them updated with the latest industry practices and technologies.

Research and Innovation

Some general directions in which institutions implement research and innovation activities to drive innovation in training:

Green Economy and Sustainability: Research that focus on green skills, renewable energy, sustainable practices, and environmentally friendly technologies to meet the demands of the growing green economy.

Digitalization and Technology Integration: Research that explores ways to integrate digital tools and technologies into training, such as virtual reality (VR), augmented reality (AR), online learning platforms, and simulation-based training.

Entrepreneurship and Start-ups: Research related with start-up incubation, innovation management, sustainable businesses.

New Teaching Methods and Pedagogy: Research related with innovative teaching methodologies, including project-based learning, problem-solving approaches, flipped classrooms, and blended learning, to make training more engaging and effective.

Competency-Based Education and Recognition: research related competency-based education, where learners' skills and abilities are measured and recognized based on demonstrated competencies rather than just academic achievements.

Research on Learning Outcomes and Impact: research on the effectiveness of training programs, measuring learning outcomes, and assessing the impact of innovative approaches on students' employability and success in the job market.

Collaboration and networking

One of the main goals of our CoVE is sustained partnership between local / national education providers and businesses in order to provide services that are responsive to labour market needs, foster innovation and regional development. It includes sharing information, knowledge and practical experience, teaching resources (spatial, technical), and teaching staff; also, organising joint educational activities and events, involving business representatives in development of new curricula and teaching process.

Such collaboration and networking will involve more Lithuanian institutions outside our CoVE in the future.

Collaboration with CoVEs in other European countries is still quite weak and is to be improved. It could be done by creating a platform which would unite all CoVEs on a European level.

CoVE LT seeks to establish special innovative forms of partnerships to enhance our training programs and contribute to local and regional development. These innovative partnerships can be described as follows:

Industry-School Collaborations: our CoVE is engaged in innovative partnerships with local industries to develop specialized training programs, share resources, and create work-integrated learning opportunities for students. These collaborations involve co-designing curricula, providing real-world projects, and offering apprenticeships or internships.

Professional Association Collaborations: Partnering with professional associations and industry-specific organizations help to ensure that our CoVE's programs align with industry standards and certification requirements.

Digital and EdTech Collaborations: CoVE LT cooperates with technology companies to leverage digital tools and platforms for online learning, virtual labs, and simulation-based training.

Joint Initiatives with Government Agencies: CoVE LT seeks to collaborate with government agencies responsible for workforce development and education policy in order to create training programs that address regional skill gaps and economic challenges.

Education and decision makers are invited to CoVE project related workshops, conferences, round table discussions. Representatives of the CoVE participate in regular meetings organised by the Ministry of Education, Science and Sports of Lithuania.

Policy Advocacy

Lithuania's smart development strategy involves leveraging technology, innovation, and human capital to drive economic growth, sustainable development, and competitiveness. Vocational education and training play a crucial role by equipping the workforce with relevant skills that align with the needs of industries and regional development goals. Our CoVE might contribute to it as follows:

Industry-Aligned Training: CoVE LT collaborates closely with industries to offer vocational training programs that are directly aligned with the needs of local businesses and industries. This ensures that graduates possess the skills required for the job market, enhancing the region's workforce and attracting investments.

Innovation and Technology: CoVE LT aims to integrate innovative teaching methods and technologies into their training programs. This not only prepares learners for modern workplaces but also fosters a culture of innovation within the region.

Skills Ecosystem: CoVE LT becomes an integral component of skills ecosystem, working in collaboration with other educational institutions, research centers, and industry partners. This interconnectedness strengthens the region's capacity to develop and sustain a skilled workforce.

Regional Innovation: By offering training programs that align with emerging industries and technologies, our CoVE can support regional innovation efforts. Our graduates can drive innovation within existing businesses or start their own SMEs, contributing to the region's economic diversification.

Global Competitiveness: A well-equipped workforce resulting from CoVE's vocational education and training programs enhances the region's global competitiveness. Skilled workers attract investments, contribute to export-oriented industries, and promote the region's reputation as a hub of excellence.

Lifelong Learning: our CoVEs contributes to a culture of lifelong learning by offering continuous training and upskilling opportunities. This helps existing workers adapt to changing industry demands and technological advancements.

There is no a legal/policy framework or development strategy to regulate CoVEs in Lithuania. Such a framework and strategy are necessary in order to ensure successful continuing development, expansion and activity of the Centre.

Each partner of CoVE LT has their own strategic approach in collaborating with policymakers. We understand that it is essential to demonstrate how supportive policies and funding frameworks for education and innovation can benefit the economy, workforce, and society as a whole. We try to establish and maintain relationships with policymakers by attending meetings, conferences, and policy forums where we can engage with them and discuss the priorities. We also conduct research on existing policies, funding mechanisms, and regulations related to VET and innovation. It helps us to identify gaps or areas that need improvement. We form alliances with industry associations and other stakeholders to develop policy proposals.

Strengths and weaknesses

Strengths:

- **Industry Alignment:** At CoVE LT we strive to closely collaborate with industry partners, ensuring that the training programs we deliver are aligned with current industry needs, leading to graduates who possess relevant and up-to-date skills.
- **Quality Enhancement:** Our main focus is on improving the quality of vocational education by offering specialized training, resources, and curriculum development that meet high standards set by both educational and industry stakeholders.
- **Innovation:** We aim at fostering innovation in vocational education by introducing new teaching methods, technologies, and practices that reflect the evolving demands of the job market.
- **Partnership Collaboration:** Our CoVE brings together various stakeholders and this collaboration helps to ensure a holistic approach to skill development and training.
- **Customization:** We aim at delivering training programs tailored to the specific needs of the industry or sector, providing graduates with the precise skills required for employment.
- **Regional Development:** Our CoVE operating at the regional level can contribute to local economic development by providing a skilled workforce that meets the demands of local industries.
- **Career Opportunities:** We believe that graduates of our CoVE programs will have better career prospects due to their relevant and industry-aligned skills, increasing their employability.

Weaknesses:

- **Resource Constraints:** Establishing and maintaining a CoVE requires significant financial and human resources. We will need to find and secure funding mechanisms after the 3LoE project ends.

- Dependency on Industry Involvement: The success of CoVE heavily relies on active participation and engagement from industry partners. If industry involvement is lacking, the training may become outdated and less relevant.
- Changing Market Demands: Industries can change rapidly due to technological advancements and market shifts. Our CoVE might struggle to keep up with these changes and might need frequent updates to remain effective.
- Long-Term Sustainability: Like all CoVEs, CoVE LT will need to adapt to changing economic conditions and industry demands to remain relevant over the long term. Without ongoing adjustments, it might become outdated.
- Lack of Awareness: It might be quite a challenge for our CoVE to gain visibility and recognition, which could impact enrollment and the perception of our programs' value.

6.7 Country Strategy for COVE Poland

Country information

CoVE Partners:

- Izba Rzemieślnicza w Szczecinie (Chamber of Crafts in Szczecin)
- Zespół Szkół Mechanicznych i Logistycznych w Słupsku (Mechanics and Logistics School in Słupsk)
- Uniwersytet Pomorski w Słupsku (Pomeranian University in Słupsk).

CoVE Governance

The current structure (CoVE) for the 3 LoE project includes three partners, with each partner playing a specific role at different levels:

1. Secondary school - (Mechanics and Logistics School in Słupsk - PP5) - leader of the Polish CoVE; Role: Management of current activities within the CoVE; Cooperation with stakeholders; Providing educational infrastructure and resources for practical learning; Representation of CoVE. Level: regional.
2. University (Pomeranian University in Słupsk - PP6): CoVE partner; Role: Cooperation with stakeholders; Dissemination activities; Representation of CoVE; Providing educational infrastructure and resources for practical studies; Level: national, international.
3. Chamber of Crafts (Chamber of Crafts in Szczecin - PP4): CoVE partner; Role: Cooperation with businesses and companies regarding VET education; Representation Developing practical professional skills; Level: regional.

Together, all partners work for professional development in the field of logistics, combining theoretical knowledge with practical experience, as well as building bridges between education and the labor market. Their involvement covers both national and regional aspects, which allows for effective adaptation of activities to the needs of local communities and the economy. The governance model served the purpose of our CoVE during the realization of the 3LoE project. However, in order to address sustainability, the governance model should be more centralized. As a matter of fact, an independent office should be set up to manage the activities of CoVE when the project has concluded. The role of such a person would be to maintain the flow of information, contact between all stakeholders, gaining new partners and running the day-to-day business of CoVE. Also, the CoVE could take the form of an association or a business entity, where the role of it would be to ensure the viability of its operations. A business model should be developed and implemented so as to ensure the continuous running of CoVE (and any persons employed in it). In the current scenario, this option does not seem feasible. Actions implemented to monitor continuous improvement and assess the impact and effectiveness of CoVE activities:

1. Monitoring and compliance with financial indicators and indicators relating to achieving goals. This is done against the benchmarks set by the lead partner.
3. Reporting and Data Analysis: Regular reporting by each CoVE partner and analysis of data regarding the activities of CoVE centres. This is done as stipulated in the project agreement.
3. Transparent Communication: CoVE partners remain in constant contact. The communication takes place between all partners, but also between CoVE partners and CoVE coordinator. Improvement actions are taken to ensure proper realization of activities. If need be, assistance is provided by all partners.

Funding and Sustainability

As regards the national level, new European Funds for Social Development (Polish: FERS - Fundusze Europejskie dla Rozwoju Społecznego) could be used to further develop CoVE. The funds are designed to improve the situation of people on the labor market, increase accessibility for people with special needs, provide childcare, improve the quality of education and developing competences, social integration, development of social services and the social economy, and health care. This also includes VET schemes. The Funds are allocated for the period 2021-2027.

However, a dedicated fund system dedicated to VET and vocational excellence would be an ideal solution for CoVE. However, the definition of VET needs to be widened so as to encompass HEIs. Very often, these two concepts are somewhat treated differently, while HEIs do provide practical education and training, even at classical universities (i.e. not only at Universities of Applied Sciences).

At the moment, the Polish CoVE uses the financial resources of the 3LoE project. In the future, the CoVE might need to resort to their own funds, at least at the very beginning of the post-3LoE-project months. The problem with such a solution is that the school (PP5) is financially dependent on the Municipality and cannot make any independent decision regarding finances or entering into financial partnerships. An establishment of a separate business entity could potentially solve this problem; however, the school will always be dependent on the decisions of the Municipality.

First and foremost, CoVE would need consultancy, and in particular legal assessment of the possibilities for further development (and chiefly continuation) of CoVE in the future. At the moment, the Polish CoVE is a platform for skills development, which in fact is a non-legal and a rather loose association of partners working towards a common goal. In order to ensure a more robust cooperation, the entity should get a legal recognition (association or company) and become financially independent. Financial help in the form of grants and further assistance regarding the continued cooperation would be necessary.

CoVE Focus Areas

CoVE as a whole cooperates with businesses related to the Green Economy, which is directly linked to the overarching topic of the 3LoE Project. The Chamber of Crafts in Szczecin (PP4) covers activities in a wide range of industry sectors, which are mainly related to crafts and small and medium-sized enterprises, including traditional crafts, construction and renovation services, gastronomy, health-related services. The primary sectors include electrical engineering and fixtures and fittings.

The Mechanics and Logistics School in Słupsk (PP5) covers mechanical and logistics trades, in the following professions: electromechanic, mechanic driver, varnisher, mechanic fitter, agricultural machinery mechanic, motor vehicle mechanic, yacht and boat mechanic, mechatronics technician, logistics technician, shipping technician, and welding technician.

Pomeranian University in Słupsk (PP6), as regards the CoVE and project-linked activities, is linked with the logistics, but also management and ship production and food industry.

The Polish CoVE's areas of interest are primarily:

Green skills and sustainability: Activities related to environmental education, environmental protection, renewable energy, energy efficiency, closed-loop economy. Our CoVE can promote green practices to students and the community and conduct research on sustainability.

Development of dual education: Working with businesses to introduce apprenticeships for students and adapting curricula to the needs of the labour market (in the dual system of education).

Education of the future: Taking action to prepare students for a dynamic business environment, promoting soft skills, creativity and adaptability.

Global cooperation and student mobility: Developing partnerships with universities around the world, promoting student and academic exchanges and conducting research projects with an international focus.

New technologies: research and development in areas such as artificial intelligence, internet of things (IoT), block chain, biotechnology, nanotechnology, etc. In particular, the University can conduct research projects, training and collaborations with technology companies to put new technologies into practice.

Curriculum, Teaching and Learning

The construction of the current CoVE promotes the sustainable flow of knowledge and skills between IVET, CVET and HEI. However, since the education in the secondary school (PP5) in Green Logistics will have finished long after the conclusion of the project (5 years), it is impossible to predict what effects the project will have on the smooth transfer of students from the secondary to the tertiary education (within the same overarching theme: green logistics). Our efforts concentrate on the adaptation of curricula to provide a uniform educational path across the three levels.

Future CoVE could mainly deal with life-long learning, training as well as micro credentials to provide for the upskilling and reskilling activities.

As the three entities entering Polish CoVE (each at its own level of study), we take care to ensure that our curricula are up-to-date and in line with industry trends and technological advances through several key activities:

- Working closely with organizations, businesses in the local market. We regularly engage with representatives from various industries to understand their needs and expectations of graduates. We maintain close relationships with businesses, research institutions and experts in various fields, which allows us to continuously adapt our curricula to the requirements of the labor market.
- Curriculum update. Our curricula are regularly evaluated and updated for new trends, technologies and changes in industries. We use feedback from external stakeholders as well as our own teachers and researchers (University) to ensure that the curriculum content is in line with the latest developments in the field.
- Flexibility in study programs (University). We strive to ensure flexibility in our study programs to enable rapid adaptation to the changing needs of the labor market. We introduce new courses, specializations or modify existing ones to ensure that our students acquire skills and knowledge that meet current industry needs.
- Participation in conferences and seminars. Teachers regularly attend industry conferences, seminars and workshops to keep up to date with the latest developments in their fields. This enables them to incorporate the latest trends and teaching methods into their curricula.

- Internships and apprenticeships. We provide students with opportunities for internships and apprenticeships in reputable companies and institutions, allowing them to gain practical skills and experience in line with current labor market needs.

Through these activities, we strive to ensure that our pupils and students receive the highest quality education that prepares them to successfully enter the labor market and cope in a dynamic business environment. At university level, it is mandatory to consult stakeholders (including business) to develop and refine (update) curricula.

Professional development for teachers is a key element in ensuring that their teaching is up-to-date and adapted to the ever-changing demands of professional sectors. Here are some aspects to consider in this process:

- Participation in training courses and professional conferences. Teachers should regularly attend training courses, conferences and workshops related to their field of teaching. Such events enable them to learn about the latest trends, technologies and practices in the industry.
- Collaboration with industry representatives. It is important for teachers to establish close partnerships with industry representatives, drawing on their experience and knowledge. Such partnerships can lead to the introduction of practical elements into teaching and ensure that the teaching material is up-to-date and practical.
- Participation of teachers in education fairs, job fairs.
- Self-improvement of teachers through their participation in courses, postgraduate studies to enhance their knowledge.
- Teachers' internships in the form of visits to other schools and participation in the educational process conducted by another unit. It can take the form of national or international job shadowing activities.

Support for Trainees

In the vocational schools run by the Chamber of Crafts in Szczecin as well as at the Mechanics and Logistics School in Słupsk career consultancy is an obligatory element of education. Students have easy access to such counselling. Also, regular job fairs as well as educational fairs (the latest organized by the Mechanics and Logistics School in 2024) help students choose their further education and careers. Teachers are also active professionals in their respective professions, which makes it easier for students to access the most up-to-date information about employability and career possibilities. Cooperation with local and regional Employment Agencies, whose representatives visit schools, are a wonderful opportunity for students to learn about the current trends in the job market. This is enhanced by visits to companies and by representatives of companies who visit schools to encourage young people to take up a specific career.

At university level, the internship program as well as career counselling provided by the University Career Office are the strongest elements in providing information regarding job opportunities. This is additionally enhanced by visits to companies and also by the visits of company representatives to the university (headhunting). An additional element is the dual study system which firmly connects the educational and business sectors.

Ensuring equal access to education for all people, regardless of their origin, gender, age or abilities, is a priority for Polish CoVE. There are specific internal legal regulations regarding this element in the rules and regulations of partner institutions.

There are many actions taken to achieve this goal:

- Recruitment policy without discrimination.
- Various types of support programs for students, such as specific programs promoting e.g. women on the job market.

- Promoting equal opportunities in access to training and vocational education.
- Promoting diversity in craft professions.
- Availability of information and support for people with disabilities.
- Psychological and emotional support.
- Adapting the environment to the diversity of students. The school and university ensure that the environment is accessible and friendly to all students, regardless of their abilities or needs. This includes adapting infrastructure, e.g. ensuring access for people with disabilities or taking into account linguistic diversity in educational materials (University), taking into account students with poor eyesight (University), etc.
- Promoting a culture of equality and tolerance.
- Supervision of the realization of adopted practices by the appointment of specific commissions or commissioners.
- Educational support programs: remedial classes, workshops, individual consultations with teachers

All partners actively promote the availability of educational programs for all students, eliminating language and infrastructural barriers. There are specific infrastructural investments that help adapt the environment to the needs of all students. Also, there are many migrants (especially from Ukraine) who are actively included in all educational activities at all partner institutions. Additional courses of Polish are provided to support students and their adaptation. At the University, there are special social support schemes (financial, psychological, counselling, etc.) in place.

Cooperation with Industries

Cooperation with business takes place through:

- Apprenticeship/ Internship programs. Students and pupils have the opportunity to complete an apprenticeship/ internship and gain work experience in a specific company. This allows students to gain practical work experience and learn skills that are sought after by employers.
- Joint research and innovation projects. Companies are invited to do joint research and innovation. For example, the University cooperates with companies in joint research and innovation projects. An example concerns the IT industry, where the university works on apps supporting the police, apps to steer drones providing first aid, language apps; in the cosmetology industry: developing formulas for air plant (*Kalanchoe pinnata*) cosmetics, etc. Owing to such a partnership, new technologies, products or services are created that have the potential for commercial use and bring benefits to both parties.
- Sponsorship of companies. This may take the form of sponsored labs, software or other pieces of equipment.
- Organization of meetings between students and business representatives (school, university). Students learn about a given industry, have the opportunity to ask questions and learn about experiences related to a given industry. This kind of cooperation takes place with all partners.
- Training programs and courses tailored to business needs. All partners respond to the needs of business, sometimes tailoring curricula to the needs of the business sector. An example is the Shipwright class opened at Mechanics and Logistics School in Słupsk in cooperation with Markos Company. The university offers postgraduate studies and courses tailored to the specific needs and requirements of business. In the past few years, a number of Bachelor’s programs have been opened upon direct request of the industry (e.g. cosmetology, Internet of Things, etc.).

- Schools, universities and chambers employ practitioners (people working in companies) as teachers.
- Employers often take part in the shaping of final curricula. This specifically takes place at university, not least because it is mandatory to involve stakeholders in the curriculum creation and its upgrading. There is an Employers' Council for each field of study at the University (specific to a given field of study), which provides advice and assistance in the education process.

The specific industries that align with our CoVE objectives and programs are transport, forwarding and logistics; hotel, catering and tourism; protection and safety; electrical engineering; construction industry; healthcare; food; mechanical – machine construction, metal and plastic processing; automotive.

Cooperation between the education sector and Industries can bring many benefits for both educational institutions and companies.

- Better matching education to the needs of the labor market. Thanks to cooperation with business, schools and universities can better understand the current and future needs of the labor market. This allows to tailor curricula and courses to specific skills and competencies sought by employers.
- Increasing employment opportunities for graduates. Students who participate in internship programs or research projects in cooperation with companies gain valuable professional experience and often have a chance for direct employment after graduation.
- Access to the latest technologies and practical knowledge. Cooperation with business allows educational institutions to gain access to the latest technologies, practical knowledge and best practices used in a given industry. This allows teachers and students to gain practical skills and experience that are current and useful on the labor market.
- Development of innovation and knowledge transfer. Cooperation with Industries can lead to the creation of innovative solutions and new technologies that have the potential for commercial application. The transfer of knowledge and skills can be bidirectional.
- Shared infrastructure. Cooperation makes it possible to share infrastructure between educational institutions and businesses. This in particular may concern R&D activities.
- Building relationships and networks. Cooperation with business enables building relationships and networks between students, teachers and industry representatives. This may lead to new professional development opportunities, internships or employment for students, and to joint research and innovation projects for teachers and researchers.
- European grant programs often require cooperation between the research and business sectors (e.g. Horizon Europe program worth 95.5 billion euro).

Collaboration between education and business is therefore a key element in building a bridge between theory and practice and ensuring that students are well prepared to enter the labor market and achieve professional success.

Research and Innovation

First and foremost, research and innovation in all partner institutions is strongly connected with digitization of the learning/ teaching process. This involves the implementation of virtual labs and dedicated software. It also involves new modes of teaching and learning, such as distance learning. Also, the use of artificial intelligence in the classroom is a new and intriguing opportunity for the sector. At university level, such ‘research’ is also linked with the opening of new study paths that set directions for new professions. At the Mechanics and Logistics School, the innovation of this kind has led to the opening, in cooperation with Markos Company, of a class of Shipwrights.

Collaboration and networking

CoVE collaborates and creates networks across educational levels to ensure the exchange of knowledge and practices, mutual learning and the sharing of resources.

1. PP4 - The Chamber of Crafts in Szczecin operates mainly locally:
 - it organizes regular meetings, seminars and workshops for local entrepreneurs to share knowledge and practices.
 - It establishes partnerships with local educational institutions, such as vocational schools, to jointly organize training and apprenticeships for students.
2. PP5 - Mechanics and Logistics School in Słupsk operates at local, national and EU level:
 - it participates in networks of schools in the same industry at the national level through participation in conferences, student and teacher exchanges and cooperation projects.
 - Thanks to the project 3 LoE project, the school has established contacts with vocational schools from EU countries, also through participation in international events, such as the Forum on Vocational Excellence (San Sebastian 2022; Amsterdam 2023).
 - It cooperates with the chamber of crafts and small local enterprises to organize internships and provide up-to-date information on labor market requirements.
3. PP6 - The University operates locally, nationally and internationally:
 - it establishes cooperation with local businesses, vocational schools and craft chambers (e.g. the Słupsk Chamber of Industry and Trade) to organize lectures, workshops and internships for students as well as bigger events, such as conferences and symposia.
 - it cooperates with universities from all over the country, the EU and the world through participation in student and teacher exchange programs (e.g. ERASMUS), joint research projects and scientific conferences.
 - It showcases the 3LoE project at international events and within national and international associations of HEIs.
 - It is involved in international research and innovation programs that allow the exchange of knowledge and experiences with universities from around the world.

For the University, the innovative form of partnership involved the launch of a dual study program with two companies from the region. Pomeranian University in Słupsk had never had any dual study program before.

As an institution of higher education, Pomeranian University in Słupsk cooperates with other universities in the country and abroad. Accordingly, we have an established cooperation with Warmia-Mazury University (AEDIL DAIRY CoVE) and with Warsaw University of Life Sciences (ALLVIEW CoVE). However, cooperation is limited to exchange of good practices and joint participation in national conferences of university representatives (without any specific reference to CoVE cooperation).

The partners systematically organize various events such as workshops, conferences (including press conferences) and meetings to engage the local, regional and national education community and policy makers. All these initiatives are aimed at building strong relationships with local communities, entrepreneurs and local government authorities, as well as promoting the achievements and development of the university. This aim is attained through:

- Inviting representatives of local government authorities and business to partner institutions. Representatives of local government authorities, business and other key institutions for the local community are invited to all conferences, workshops and meetings informing about the development of the partners. They are often invited to important events, such as the inauguration of a school/academic year or to anniversary events. This enables the exchange of information, building partnerships and cooperation for the development of the region.

- Cooperation with industry enterprises. All partners engage in active cooperation with enterprises from the industries covered by the conference and workshop topics. Partnership with business allows for adapting teaching programs to the needs of the labor market and providing students with practical professional experience. The business sector indirectly influences the development of appropriate policies of the region regarding VET development.
- Cooperation with the Regional Teacher Training Centre (RTTC). All partners, including the University, regularly cooperates with RTTC in organizing conferences, improvement and qualification courses for teachers from the region. This enables the exchange of knowledge and experience between the university and local schools, supporting the professional development of teachers and improving the quality of education in the region. Such an event took place on 11 October 2023 during Erasmus Days organized at Pomeranian University in Słupsk. It is on this occasion that the 3LoE Project was presented to teachers and trainers from the city and the region.
- Promoting scientific and educational achievements. All partners use various events as a platform to promote its scientific achievements, research and innovative educational practices. This allows to build the university's reputation and attract the best students, researchers and academics. One of the best opportunities was the 3LoE project meeting in Szczecin (November 2023), which proved to be a great chance to not only showcase the project to provincial self-government, but also to use media coverage for Polish CoVE presentation.
- Openness to cooperation and dialogue. All partners attempt new cooperation and dialogue with the local community, business and representatives of local government authorities. Regularly organizing events and meetings allows to build trust and create positive relationships with various stakeholders.

Policy Advocacy

First and foremost, the Polish CoVE within the 3LoE projects is not the region's CoVE, because the Chamber of Crafts in Szczecin is in a different region (province) than the Mechanics and Logistics School and Pomeranian University in Słupsk. The fact that we cooperate within a project-related CoVE does not mean that the CoVE has the status of a recognized regional Centre of Vocational Excellence (see below for more information on nation-wide Industry Skills Centres). Also, two of the partners (PP5, PP6) operate in one province (Pomeranian Province), while the third one (PP4) in another province (West-Pomerania Province).

Currently (2023), the smart specialization strategies for

(A) Pomeranian Province are:

- Offshore and port and logistics technologies.
- Interactive technologies in an information-saturated environment.
- Eco-efficient technologies in the production, transmission, distribution and consumption of energy and fuels and in construction.
- Medical technologies in the field of lifestyle diseases and ageing.

(B) West-Pomeranian Province are:

- Technologies and Services of the Future.
- Intelligent Methods of Manufacturing Products and Machines.
- Chemical Products for Sustainable Development.
- New Generation Natural Processing.
- Blue Economy and Green Transport.
- Tourism and Quality of Life.

From the perspective of the smart specializations, the dual teaching and student programs realized by PP5 and PP6 (Green Logistics, and Logistics: Green Supply Chains, respectively) perfectly fit the No.1 smart specialization of Pomeranian Province. In fact, this is a double-fit, because the current biggest investment in the province is related to offshore energy production (green energy), with supply chains being an important element to allow the construction of offshore wind farms. Also, smart specialization No. 2 is covered by the topics realized by the partners, especially where IT and ICT are used in the VET educational processes (PP5, and partially PP6), and in the IT/ICT training of teachers/ trainers (PP6). They also covered smart specializations of West-Pomerania No. 1 and No. 5.

The dual VET programs offered by PP4 (1. Fitter of fixtures and fittings in the building industry, and 2. Electrician) overlap with smart specializations No. 1. of West-Pomeranian Province, and smart specializations No. 3 of the Pomeranian Province.

Each of the smart specializations has a uniquely beneficial effect on the development of regions and their industries. In educating specialists in any of the smart specializations, makes it possible to feed properly educated workforce to the labor market, and hence strengthen the competitive advantage of the regions.

The Polish government introduced into law (Law on Education of 27 September 2023) a new entity called “Industry Skills Centre” (Polish: BCU, or Branżowe Centrum Umiejętności), which is a nationwide education, training and examination centre with an industry-oriented focus in one of the vocational fields specified in regulations issued on the basis of the Education Law. The ISCs are to, inter alia, conduct theoretical further training courses for young workers.

An industry skills centre is to integrate vocational training schools, further education institutions, vocational training centres, universities and entities, such as employers, employers' organizations, economic or other business organizations, professional associations or self-governments, sectoral competence councils and the Competence Program Board, which are active in this vocational field. The entities integrated within the ISCs are to carry out:

- educational and training.
- supporting cooperation of schools, institutions and universities with employers.
- innovation and development, disseminating knowledge and new technologies and ecological and digital transformation.
- supporting implementation of vocational counselling for students and professional activation of students, doctoral students and graduates aimed in particular at pupils, students, doctoral students, teachers, university teachers and employees, in this professional field.

Each partner holds regular and occasional meetings with the representatives of local and regional communities. We also take part in discussion panels of our regional governments, regular meetings with representatives of the municipality (e.g. during regular head teacher meetings). Institutional 3LoE project manager took part in the panel of Polish VET experts in 2023. He also met informally with the representatives of the Polish Ministry of Education in Science twice (during the Forum on Vocational Excellence - San Sebastian 2022 and during the Erasmus+ Sport Conference in Kraków 2023) and discussed the operation of Erasmus+ CoVEs.

Strengths and Weaknesses

Strengths:

- Specialization and expertise: CoVE is a place of unique specialization and expertise in a given professional field, which allows for the improvement and development of specialized skills. The Polish 3LoE CoVE is one of the first CoVEs in Poland, and the only one dealing with green skills for the green economy.
- Cooperation with business: Each partner cooperates with local enterprises, which allows for adapting training programs to the current needs of the labor market and teaching

practical skills. The added value of the 3LoE CoVE has been a big push towards greater cooperation with the business sector. For the university (PP6) it has meant a very close and innovative cooperation with companies towards a common goal of launching a dual Bachelor Degree Program in Logistics: Green Supply Chains.

- Partnerships with educational institutions: Each partner establishes partnerships with other universities, schools and educational institutions, which enables the exchange of knowledge, experience and best practices. In particular, the 3LoE project, and the Polish CoVE operation in particular, has sparked interest among other educational institutions. The idea of CoVE has been widely discussed with other partners (non-associated ones as well) regarding the construction and operation of CoVE as a skills platform. This also involved informal talks with the representatives and the Polish Ministry of Education and Science as well as Polish VET Experts Group. Pomeranian University in Słupsk also discussed the idea of CoVE with other universities, including the University of Applied Sciences in Elbląg.
- Support for the local community: Each partner offers support for the local community by organizing courses, workshops and other educational initiatives that can contribute to the professional and economic development of the region. The Polish CoVE enabled us to disseminate the results of the project among the community.
- Research and innovation: CoVE is a place where research is conducted and innovations are developed in a given professional field, which contributes to improving the quality of training and the development of new technologies and work methods. The 3LoE CoVE project has enabled all Polish partners to take up a new level of research and innovation. The dual Bachelor’s Program at PP6 is innovative in itself, because the university had never had any studies of this kind. Also, the proposed innovative B+R projects to be realized by some partners (including PP6) is a great opportunity to introduce innovation to the institutions.
- Recognition. The 3LoE project, and the operation of the Polish CoVE have largely influenced the recognition of all Polish partners on the national and international arena. In particular, the 3LoE Polish CoVE is a unique entity nationally and has sparked attention from various stakeholders, including educational institutions, local and regional authorities as well as national bodies, including the Ministry of Education and Science and the Polish National Agency for Erasmus+ and Solidarity Corps. The international recognition has been showcased during the two Forums of Vocational Excellence (2022 and 2023) and at international meetings (e.g. PP6 during the General Assembly of EURASHE). The project has strengthened the position of all Polish institutions taking part in the Polish CoVE as reliable project partners.

Weaknesses:

- Changing trends and needs of the labor market: The need to constantly adapt training programs to changing trends and needs of the labor market. This may be exemplified by the AI boom that we have been experiencing since late 2022. The job market has adapted to the changes immediately, creating a wealth of new jobs, often requiring new skills, but also making some jobs obsolete or less prestigious (e.g. junior programmer). For the Polish CoVE it means that some of the approaches (and topic, including curricula) adopted need a swift update of programs, courses, and workshops to better reflect the changing job market landscape. Unfortunately, in public institutions the changes cannot be effective as quickly as is required.
- Language barrier: One of the issues related to the cooperation of the Polish CoVE with other CoVEs is language barriers, which becomes specifically visible during oral

communication. All partners helped other partners in smooth and uninterrupted communication, however for full sustainability of the CoVE operation, it would be necessary to employ CoVE managers/ secretariat with an advanced competence in English.

- Currency barrier: the Polish CoVE is the only 3LoE Centre that operates the project funds in the local currency (Polish zloty). This has made all budget calculations and current financial running of the project more difficult. This concerns all partners, however, creates additional problems for PP5, whose budget and any expenses are managed by the local Municipality (as the legal organ that incurs any obligations and responsibilities).

6.8 Country Strategy for COVE Spain

Country Information

Partners involved:

Institut Pere Martell (PP20 IPM) is one of the leading VET schools in Catalonia. It is located in Tarragona, on the Mediterranean coast, just one hour away from Barcelona. It provides over 20 courses (Basic VET, EQF4 and EQF5 diplomas) from 8 different professional sectors: Motor Vehicle Maintenance and Repair, Electricity and Electronics, Industrial Manufacturing, Graphic Design, Water and Energy, Installation and Maintenance, Woodwork and Audiovisual Arts. It also offers courses in the dual system (work-based learning) and internships for its students in more than 400 national and international companies (<https://institutperemartell.cat/pere-martell-english>).

Departament d'Educació (PP18 DEGC) is the administrative body of the Government of Catalonia in education matters and is responsible for the proposal and implementation of general non-university educational policy, training and recruiting trainers, and the management of training centres. The Regional Ministry of Education of the Government of Catalonia sets up training programmes for IVET students and supports training centres in close co-operation with local companies and professional associations. It also has an on-going Quality Plan (ISO 9001 and ISO 45001) to help and support state funded VET providers in Catalonia to define, establish, implement and keep their own management system based on quality values. At the same time, it coordinates the compulsory work placements of the approximately 50,000 vocational students in the country (<https://educacio.gencat.cat/ca/inici>).

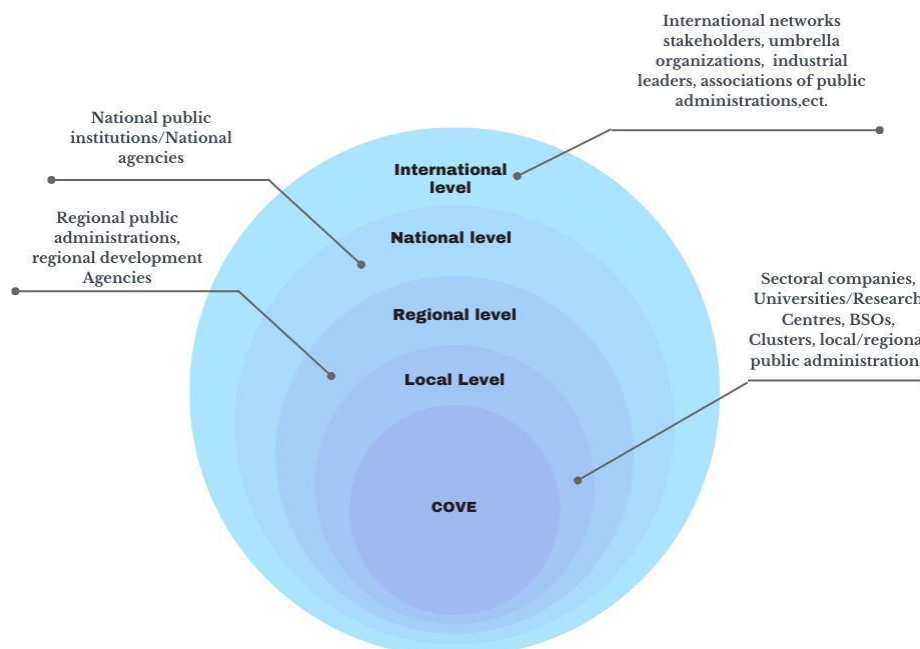
AGBAR (PP25) is a leading corporation in water and environmental resources management. Integrated by more than 150 operational companies and 15,000 employees, they serve more than 37 million people at local and regional level in Spain and Latin America. It is also the owner of the Water School, an institution launched in 2012 for training and developing professionals in the sector with the highest level of excellence and competence. Thus, it offers programmes in collaboration with prestigious universities and educational centres, aiming to become a benchmark in knowledge, training and talent applied to water management and natural resources. The portfolio of programmes includes master's degrees, diplomas and short-term courses, as well as Dual VET programs and educational outreach projects for scholars and citizens. (<https://www.agbar.es/conocenos>).

CoVE Governance

Most of the training activities are being carried out by two VET schools: Institut Pere Martell (in the city of Tarragona, as a full partner in the Project) and Institut Esteve Terradas (in the outskirts of Barcelona, as part of PP18 DEGC). The reason for this choice is that these two schools are leading training centres in Catalonia when providing VET diplomas (both EQF 4 and 5) in the water sector, which is the professional and economic arena central to our participation in the Project. PP25AGBAR's Water School is also responsible for some of the training activities, especially those aimed at owners, management personnel and employees

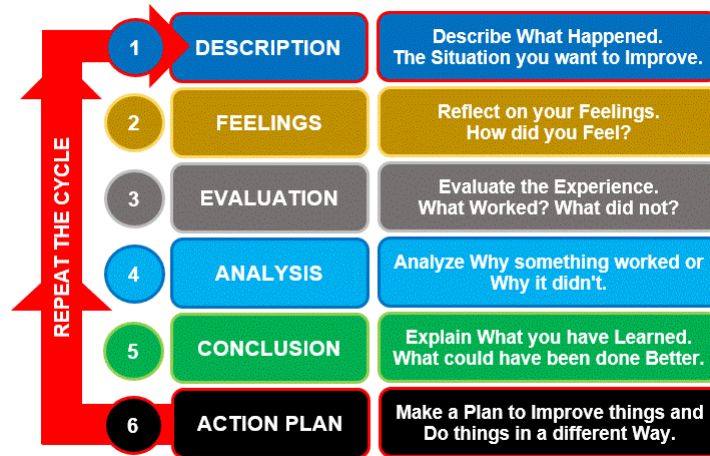
of small and medium-sized enterprises. After signing an agreement with Universitat Rovira i Virgili (based in the Tarragona area), PP25 AGBAR’s other role is to offer posts for 4th-year university students so that they can do 12-ECT internships in any of its branches all over Catalonia in order to accomplish their Dual Bachelor’s Degree in Chemistry. At the moment, as it has been suggested above, the scope of our actions is local and regional, but our intention in the future is to reach the rest of Spain and, hopefully, other countries by engaging international networks of stakeholders and umbrella organizations, active in the field of education, industrial leaders, associations of public administrations, as associates for a wider shared added value and to maximize exploitation of results.

Coordination and collaboration among the Catalan partners has always been easy because we based it upon communication from the very beginning. Frequent meetings, both online and face-to-face, have been very useful and effective in order to evaluate our achievements and to put forth and plan the next steps to take. Nevertheless, it must be said that the most difficult part has been the incorporation of the university. Only last July, after 3 years of the Project’s kick-off meeting, we managed to find a way to do so and we signed an agreement with them. This delay was due to the fact that Universitat Rovira i Virgili did not have a Dual Bachelor’s Degree programme. Luckily enough, however, they started one in the 2022-2023 academic year in the Bachelor’s Degree in Chemistry, which fitted perfectly with the topics that are being implemented in the Project and allowed us to design and establish a mutual cooperation process. As it has been mentioned in the previous question, our intention is to expand and look for cooperation elsewhere because we are conscious that there is always room for improvement. Taking advantage of the organic structure of CoVEs, for example, we are planning to incorporate the Chamber of Commerce and Industry of Tarragona, which will be a straight-forward way to reach different enterprises in the country.



1 Adapted from the EXCEED CoVE’s application form

An effective mechanism for continuous improvement and evaluation is to apply the Gibbs reflective cycle, as outlined in the diagram below.



At the same time, PP20 IPM holds a Quality Plan in which Strategic Process 1 contemplates internationalisation.

The aim of Process E1-SP1, therefore, is to establish the strategy that needs to be followed by the school in order to contribute to the modernisation of VET through international cooperation actions and the training mobility of students and teaching staff.

According to the PP20 IPM’s Quality Plan, in order to know if the lines of action have been adequate, the following indicators associated to Process E1-SP1 should be consulted:

I-E1-2: number of international cooperation actions carried out

I-E1-3: number of students taking part in international cooperation actions

I-E1-4: number of teachers taking part in international cooperation actions

I-E1-5: satisfaction of participants

In practice, these indicators turn into the following objectives:

- To increase the number of international cooperation actions in which the school takes part in.
- To increase the number of participants compared to the previous year.
- To obtain a high degree of satisfaction among the participating students and teachers.
- To obtain a high degree of satisfaction from the different external stakeholders (companies, institutions, organisations, etc.).
- To reduce the number of incidents compared to the previous year.

Funding and Sustainability

In July 2022, the Ministry of Education at the Spanish Government created a national network of CoVEs and launched a funding programme for their implementation and further development based on Next Generation EU funds. This funding programme can be applied for every year.

At the moment we are using the Project’s Erasmus+ funds as well as our own resources. In the future, if necessary, we will draw on the funding programme mentioned in the previous question. Physical resources (i.e. rooms for meetings or dissemination material) are already guaranteed thanks to the partners’ self-sufficiency in these matters.

The aspect that needs more time and attention is cooperation between the university and the company due to the circumstances mentioned in question 1.2. We need that the university continues believing in WBL and developing their Dual Bachelor’s Degree, not only in Chemistry, but also in other studies and areas of knowledge.

CoVE Focus Areas

Our CoVE activities cover the following sectors of industry: electromechanical maintenance, renewable energies and water management. Some of the training activities that we are imparting both at VET schools and companies are as follows:

- Electromechanics
- Water supply technologies
- Water saving technologies
- Solar energy technology and applications
- Waste and waste water management
- Green economy
- Waste reduction and recycling management
- Wastewater treatment and recycling management
- Water supply and saving
- Cradle to cradle in SMEs
- Energy generation from wastewater and waste
- Manageable R&D projects for SMEs
- Management & technologies of water and wastewater industry
- Waste management & technologies
- Management & technologies of the circular economy
- Management of sustainable economic activity

The training activities could be extended to other industrial sectors in order to improve their production process from a green point of view.

[Curriculum, Teaching and Learning](#)

Some of the work carried out is focused on workers in order to develop their skills in green economy through upskilling and reskilling training activities. Others are aimed at VET students taking EQF 4 and 5 diplomas in water management and electromechanical maintenance.

To ensure that curricula our CoVE offers are in line with current industry trends and technological advancements some of our teaching staff are specialists in the subjects that are being taught and they also work in the water management and electromechanical sectors, so they are updated at all times on the aspects to be covered in the different training activities. In the event of carrying out more focused training activities in other industrial sectors, the collaboration of specialist teachers in each subject would be taken into account.

Motivation of the teaching staff is fundamental so that they can update themselves in innovative techniques to carry out their teaching tasks, as well as technological innovation in the various subjects to deal with. However, it is essential to collaborate with expert personnel in water management and electromechanics in order to be updated on direct aspects of these jobs.

[Support for Trainees](#)

It is necessary to have an academic and professional guidance department that can help students in the course of their academic life in order to clarify possible doubts and encourage their personal and professional development. Depending on the amount of studies taught in a training centre, this guidance department should have sufficient staff in order to respond to all the students who require it.

Every VET school is designed to receive all kind of students, regardless of their origin, sex, age or abilities and they always have places reserved for students with special needs. Talks are organised by companies and organisations in order to publicise the diplomas taught in the training centres and with the aim of promoting equality in the number of students of both sexes, as most students who enrol for technical diplomas are male. PP18 DEGC, as the administrative body of the Government of Catalonia in education matters, also provides informative campaigns with the objective of reducing the gender gap in green industrial sectors.

Catalonia’s Ministry of Education promotes, as one of its main objectives, that all state VET schools are inclusive so that any type of student, regardless of their origin, physical or mental ability, can have easy access to them. In the past years, for example, PP18 DEGC has been hosting young migrants in its training centres so that they can take up basic VET courses and be integrated in Catalan society to be able to earn a living in the future.

Cooperation with Industries

Training centres work directly and collaboratively with the companies of the different sectors in order to organise talks and technical visits with the aim of making students aware of the type of enterprise and work carried out there. VET schools also promote the training of company workers and there is a job exchange where companies and schools are linked so that students can find out about job offers in the different sectors. At the same time, there are company-school collaborations in various innovation projects.

Specific industries that align with our CoVE objectives and programmes are companies in the water management and electromechanical sectors (Barcelona and Tarragona) and the chemical industry (Tarragona).

The main benefit of working together is the first-hand knowledge of the needs and evolution in the professional sector. Also the access to new technologies and ways of doing things in a specific industry, as well as the possibility of meeting experts in the field who can support the teaching and learning process of the students.

Research and Innovation

Currently, project-based learning methodologies are used so that students can learn to work in teams. New technologies such as Artificial Intelligence and Virtual Reality are also being implemented, as well as the use of simulators for the teaching of several subjects, with the aim of obtaining a substantial improvement in the transfer of knowledge. Participation in the development of innovation projects with other training centres and companies from different sectors is also being promoted.

Collaboration and Networking

Most of the training activities are being carried out by two VET schools: Institut Pere Martell (in the city of Tarragona, as a full partner in the Project) and Institut Esteve Terradas (in the outskirts of Barcelona, as part of PP18 DEGC). The reason for this choice is that these two schools are leading training centres in Catalonia at providing VET diplomas (both EQF 4 and 5) in the water sector, which is the professional and economic arena central to our participation in the Project. PP25 AGBAR’s Water School is also responsible for some of the training activities, especially those aimed at owners, management personnel and employees of small and medium-sized enterprises. After signing an agreement with Universitat Rovira i Virgili (based in the Tarragona area), PP25 AGBAR’s other role is to offer posts for 4th-year university students so that they can do 12-ECT internships in any of its branches all over Catalonia in order to accomplish their Dual Bachelor’s Degree in Chemistry. At the moment, as it has been suggested above, the scope of our actions is local and regional, but our intention in the future is to reach the rest of Spain and, hopefully, other countries by engaging international networks of stakeholders and umbrella organizations, active in the field of education, industrial leaders, associations of public administrations, as associates for a wider shared added value and to maximize exploitation of results.

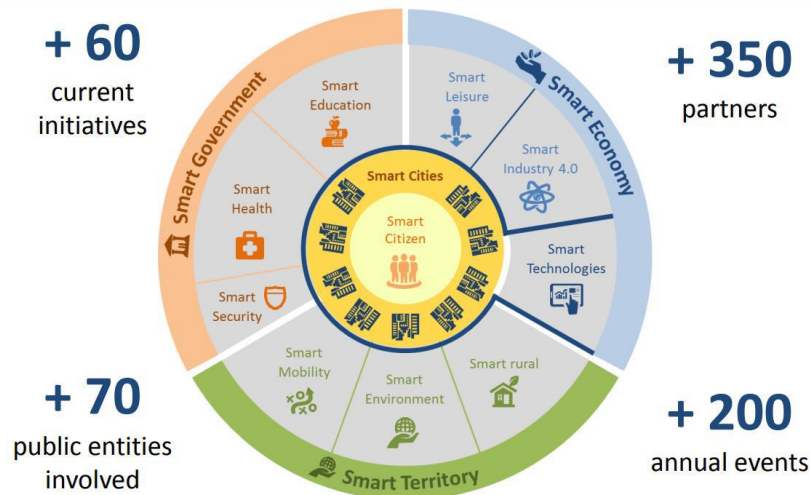
PP18 DEGC is also involved as a partner in a recent CoVE called EXCEED which has connections with 3LoE since they both deal with the green transition.

To involve local/regional/national education and decision makers we organize meetings with potential stakeholders to encourage them to get involved directly or indirectly in the Project: the Chamber of Commerce and Industry of Tarragona, Universitat Rovira i Virgili, the Catalan

Employment Agency, several VET associations, different trade unions and so on. We also take advantage of any opportunity to talk about 3LoE at the national and international events that we attend. For example, in 2022 PP20 IPM presented it during a national VET convention and PP18 DEGC did the same at a Spanish Erasmus National Agency meeting. And in July 2023, PP18 DEGC explained it at a seminar which was organised by PP25 AGBAR and broadcasted to Spain and Latin America.

Policy Advocacy

In October 2014, the Catalan Government approved the so-called “SmartCatalonia” strategy. In line with the “Europe 2020” strategy from the EC, it extends the concept of Smart City on a national level and develops a program that uses smart technology in order to innovate in public services, encourage economic growth and promote a smarter, more sustainable and more inclusive society. Later on, in October 2016, the Catalan Government, together with provincial councils and the local world, signed the “National Agreement for the Digital Society”. This is a document that responds to the conviction of all the signatory institutions of the need to jointly promote the development of the Catalan digital society to provide a country-wide response to the great challenges posed by the digital revolution.



<https://smartcatalonia.gencat.cat/en/inici/index.html>

In this sense, some SmartCatalonia’s initiatives match quite a few of the objectives that the 3LoE Project pursues, namely:

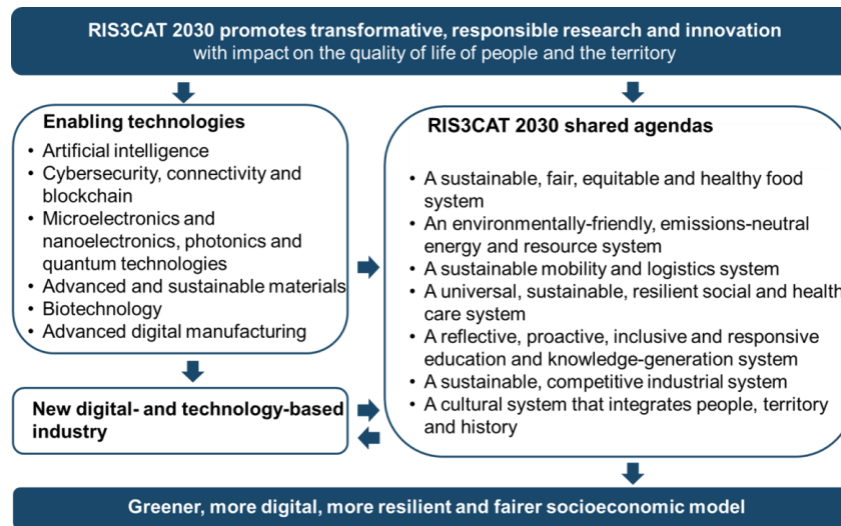
- Establishing places where the community can collaborate and innovate.
- Integrating mobile technology in the classroom.
- Creating a cluster of companies engaged in educational technology.
- Implementing a digital transformation programme for SMEs.
- Promoting industry 4.0 through an action plan.

More recently, Catalonia’s RIS3 (also known as RIS3CAT, which stands for “Strategy for the Smart Specialisation of Catalonia 2030”) is based on three vectors that should enable Catalonia to tackle successfully the great social and economic challenges of the 21st century. These are industrial tradition, quality of life and green economy or circular economy, strongly connected with SDGs. The intersection between Agenda 2030 and RIS3CAT is very clear, since the RIS3CAT instruments and projects promoted by the Catalan Government are or will be included in the Government’s Agenda 2030.

RIS3CAT is not only about traditional or technological Research and Innovation (R&I). Current societal and regional challenges such as increasing global competition, ageing population,

climate change, pressure on resources and immigration, require new collective responses through social innovation. Governments alone cannot provide the solutions to fulfil the needs of society. Changes in behaviour and new forms of collaboration among public administrations, companies, R&I agents and civil society are required to develop more efficient answers to societal challenges.

Likewise, there are strong connections between RIS3CAT and 3LoE, as it can be seen in the diagram below.



Source: Generalitat de Catalunya

Spain’s *Red Estatal de Centros de Excelencia en Formación Profesional* (which is translated as State Network of Centres of Excellence in Vocational Training) is made up of 45 VET schools all over the country, and PP20 IPM is one of them. These VET schools are characterised by:

- Innovation, applied research and the incorporation of applied disruptive technology to create environments and ecosystems and develop projects.
- Entrepreneurship.
- Internationalisation.

They offer Vocational Training linked to the National Catalogue of Professional Qualifications in the sectors of the automotive, audiovisual, health, transport and logistics, agri-food, hospitality, tourism, aeronautics, automated manufacturing, renewable energies, construction and energy sustainability, information technologies, mechatronics and cybersecurity.

In addition to being in a process of digital and methodological transformation, they organise teacher training actions at national level and collaborate in their professional sector, in the detection of the need for new profiles and in the curricular review of related academic offers.

Strengths and weaknesses

Strengths:

- A CoVE composed of different organisations with contributions from different perspectives: educational, business, academic and so forth.
- Good communication among the members of the CoVE.
- Organisations with a long history in their activities, capable of providing valuable experiences to the project.
- Active collaboration with the Tarragona Chamber of Commerce, involving the entire local business sector in the project.

Weaknesses:

- Lack of harmonisation between the university and the VET school to further leverage the synergies between both organisations.
- In some activities, the participant’s profile they are intended for makes it difficult to find candidates.

6.9 Possible Work Directions in the future

Centers of Vocational Excellence within the scope of the 3 LoE Project vary significantly starting from their makeup, development stage, available resources to the regulations they must adhere to in their respective countries.

As seen from the country strategies all CoVEs plan to continue their work and develop further. To expand their centers, there are multiple potential pathways 3LoE CoVEs can pursue.

Industry Alignment: Collaborate closely with industries to understand their evolving needs, ensuring that the vocational programs offered are aligned with current industry standards and requirements.

Curriculum Development: Continuously update and develop vocational training curricula to incorporate the latest technologies, practices, and industry-specific skills. This can involve creating hands-on training modules, simulations, and real-world case studies.

Professional Development: Provide ongoing professional development opportunities for vocational teachers and instructors. Offer training programs, workshops, and seminars to enhance their pedagogical skills, industry knowledge, and familiarity with new technologies. This will enable them to deliver high-quality instruction and keep pace with industry changes.

Skill Enhancement Programs: Offer supplementary skill enhancement programs to bridge any gaps between traditional education and industry demands. These could include workshops, seminars, and certifications.

Technology Integration: Embrace technological advancements within the vocational training programs. This might involve incorporating virtual reality, augmented reality, or other cutting-edge technologies to enhance learning experiences.

Partnerships and Collaborations: Forge partnerships with businesses, other educational institutions, government bodies, and international organizations to enhance the scope and quality of training programs offered. Collaborations can provide access to resources, expertise, and diversified perspectives.

Career Guidance and Placement Services: Provide career counseling, mentorship, and placement services to assist students in finding appropriate employment opportunities after completing their vocational training.

Quality Assurance and Accreditation: Implement robust quality assurance mechanisms to ensure the high standard of education and training. Seek accreditation from relevant accrediting bodies to maintain credibility and recognition.

Research and Development: Encourage research activities within the CoVE to innovate and stay at the forefront of industry trends. This research can contribute to advancements in vocational education and industry practices.

Continuous Improvement: Regularly assess and evaluate the effectiveness of vocational programs, seeking feedback from students, alumni, and industry partners. Use this feedback to make continuous improvements.

Community Engagement: Engage with the local community and industries to understand their specific needs and contribute to the socio-economic development of the region through skill development and knowledge sharing.

By focusing on these directions, CoVEs can become dynamic institutions that not only meet the demands of the industry but also empower individuals with practical skills and knowledge necessary for their professional success.

International Outreach: Foster global connections through partnerships and collaborations with international institutions or businesses to enhance knowledge exchange.

Skills Assessment and Certification: Implement robust assessment methods and certification programs to validate skill acquisition and enhance employability.