

VOCATIONAL EDUCATION AND TRAINING SEMINAR

HOW CAN WE BE PREPARED FOR THE CHALLENGES AHEAD OF US

CONTRIBUTIONS FROM THE VET SEMINAR

BUSINESS DEVELOPMENT, INNOVATION AND SMEs PROGRAMME

EEA and Norway Grants 2014 – 2021 in SLOVAKIA

DATE OF THE SEMINAR: **21 MARCH 2023, ONLINE**

INTRODUCTION / SUMMARY

The seminar was organized by the Research Agency, Programme Operator of the Business, Innovation and SMEs Program and was funded by the EEA and Norway Grants 2014-2021 under the Fund for Bilateral Relations. The seminar took place online via MS Teams platform and was held both in English and Slovak with the provided interpretation. The seminar was facilitated by Mr. Peter Guštafik.

One of the greatest challenges facing European economic management in the coming years will be the shortage of skilled workers. In order to counteract this problem, high-quality vocational training is needed in order to master the challenges of the future. In this seminar, representatives and experts of vocational education and training (VET) from the donor countries¹, as well as Slovak VET expert, explored this question and looked for differences and challenges in their countries and identified opportunities for the future.

The VET seminar aimed at enhancement of the relevance and quality of education and training at upper secondary and higher level provided in Slovakia and donor countries within the programme area ***“Educations, Scholarships, Apprenticeships and Youth Entrepreneurship”***.

Generally, the VET seminar should enable the participants to gain an overview of VET systems in donor countries and Slovakia; facilitate networking, cooperation, sharing and transfer of knowledge, experience and good practices between relevant stakeholders. The seminar also aimed to explore approaches to VET in donor countries and Slovakia, look at common characteristics, differences and challenges through the eyes of key stakeholders and VET practitioners. It might as well serve as the basis planning of further cooperation in this field and developing bilateral projects supported within the programme's open calls.

¹ Liechtenstein, Norway

Among the participants were mostly secondary school teachers, as well as researchers from universities, representatives of the local government and other stakeholders.

The seminar was divided into two parts: welcome and introductory speeches by the representative of Programme Operator Mrs. Soňa Sulíková, then followed welcome by the State Secretary of the Ministry of Education, Science, Research and Sport of the Slovak Republic, Mr. Slavomír Partila. The third representative was H.E. Mr. Alex Winther, Norwegian Ambassador to Slovakia, who gave a short welcome speech.

After opening speeches followed three VET experts from Slovakia, Norway and Liechtenstein, who spoke on the topic of VET system: Fundamentals and challenges. Mr. Juraj Vantuch from Slovakia represented the State Institute for Vocational Education (ŠIOV) and he works now as private consultant and education policy analyst, as well as the National Coordinator of ReferNet Slovakia, a Cedefop affiliated monitoring network and also as EC consultant within a network of independent experts. The expert from Norway was Ms. Margareth Haukås, senior adviser at Norwegian Directorate for Higher Education and Skills. She has several years of working experience in the textile industry, together with developing new curricula for textile vocations during two school reforms (2006 and 2020). Main tasks today include EU reporting on national development of vocational education and training (all education levels) and follow up of higher vocational education and training in Norway. The third expert was Ms. Marion Kindle-Kuehnis from Agency for international education affairs, Liechtenstein, who works as Project manager of the National Qualifications Framework in Liechtenstein for the area of Vocational Education.

After the break there was an interactive Panel discussion on the subject *Is Vocational Education and Training key to ensuring a competent work force for the future?* It comprised three presentations by Mr. Leif Kjetil Knudsen from the Norwegian Rogaland Polytechnic College, with background as teacher in social science and history with further education in innovation and change management. He is currently centre manager for the Centre for innovative education (National centre of excellence in higher VET) and department manager for quality, development and IT at Fagskolen Rogaland (Rogaland Polytechnic College). Slovakia represented Mr. Juraj Vantuch and Liechtenstein Ms. Marion Kindle-Kuehnis.

PRESENTATIONS BY SPEAKERS AND EXPERTS

Welcome and introduction to the seminar - presentation of seminar program and its goals (Soňa Sulíková, Director of EEA and Norway Grants Department, Research Agency)

Ms. Sulíková presented the main aims of the VET seminar that was to promote cooperation between educational institutions, especially at secondary school level, but also at university level and in the business environment with the intention to improve the level of education in Slovakia and in the Donor states, namely Liechtenstein and Norway. The seminar also served to gain an overview of the VET systems in the donor countries and in Slovakia, to get acquainted with their functioning, to strengthen mutual cooperation and exchange of best practices between the relevant stakeholders, as well as to find solutions to common challenges in this sector.

She mentioned the main target groups which were mainly secondary school teachers, but also university teachers, businesses and local government representatives. Then she presented the main speakers, agenda and the structure of the seminar and thanked the experts and partners from Slovakia and the Donor states (Norway and Liechtenstein) who, together with the Research Agency, actively participated in the organisation of the seminar.

She also presented the key objectives of programme area “*Educations, Scholarships, Apprenticeships and Youth Entrepreneurship*” which were to improve the competences and quality of vocational education and training to match the needs of the Slovak labour market.

One of the key goals of this area is to improve competence and quality of vocational education and training to meet labour market needs in Slovakia. In this country, one of the main challenges for vocational education and training is to meet the changing skills needs of individuals and the world of work. Since the demand for new skilled workers is increasing, and the VET customer base is constantly diversifying, it is necessary to increase awareness of the key role played by education and training in economic competitiveness and social inclusion.

That is why, specifically for Slovakia, three concrete issues were identified that should require our attention: labour market intelligence (including graduate tracking and employer surveys), quality assurance and power sharing between schools and businesses. Particularly inspiring for Slovakia might be also links between initial VET and Universities of Applied sciences typical for Norway.

At the end of her speech Ms. Sulíková expressed her belief that the workshop would meet its objective and enable participants to gain an overview of VET systems in Donor states and Slovakia; facilitate relationship building, cooperation, exchange and transfer of knowledge, experience and best practices among relevant stakeholders; explore approaches to VET in Donor states and Slovakia and common characteristics, differences and challenges through the eyes of key stakeholders and practitioners. At the same time, from the perspective of the Research Agency as the Programme Manager of the Trade, Innovation and SME Development Programme, we believed that the seminar could lay the foundations for planning further mutual cooperation in this area and the development of bilateral projects.

She pointed out that the main ideas of the seminar would be summarised in the concluding remarks, which the Research Agency also planned to elaborate in written form. She thanked for the attention and wished the participants a successful seminar, the strengthening of mutual cooperation between Slovakia and the donor countries, a fruitful exchange of best practices between the relevant stakeholders, as well as finding solutions to common challenges in this sector.

Welcome by Mr. Slavomír Partila, State Secretary of the Ministry of Education, Science, Research and Sport of the Slovak Republic

The State Secretary of the Ministry of Education, Science, Research and Sport of the Slovak Republic, Mr. Slavomír Partila underlined, that the high unemployment rate of young people and graduates, and the associated declining interest in vocational education and training, are a persistent problem facing most European countries, including Slovakia. Formal education is an important process that provides each individual the opportunity to develop with regard to his or

her individual as well as societal needs. One such need is the preparation of a person for a profession.

He also mentioned that vocational education and training, the basic element of which is the combination of practical training together with theoretical schooling, is a specific type of education which is aimed at providing trainees with knowledge and practical skills in order to find employment in a particular sector of work. In the context of the aforementioned problem of high unemployment rates among young people and graduates, as well as the general decline in interest in VET in recent years, there has been a significant increase in interest in this type of education by governments.

Mr. Partila stated that in many European countries, there has been a public debate for several years about making VET more attractive and better quality, which has resulted in a number of reforms of school systems. These reforms were primarily aimed at aligning the VET system with labour market requirements. Strengthening and improving practical training became a widely accepted solution to achieve this objective. In the last ten years, a number of legislative changes had been made in the Slovak Republic to strengthen the practical component of vocational education and training, thus improving the overall state of the VET system and aligning it more closely with the needs of the labour market. The latest amendment to the Vocational Education and Training Act, effective from the beginning of 2022, introduced further changes aimed at optimising and making the dual education system more attractive and reducing administrative costs.

As the state secretary pointed out, notable innovations included, in particular, the introduction of a new supra-company education and training centre in Slovakia, the main purpose of which was to provide practical training in the dual education system to pupils of several employers, as well as to provide development of teaching staff and training of instructors.

In addition, the amendment also introduced the possibility to carry out practical teaching in the dual education system also outside the territory of the Slovak Republic.

In conclusion, the state secretary thanked for the opportunity to open the vocational training seminar.

Welcome by H.E. Mr. Alex Winther, Norwegian Ambassador

Mr. Ambassador mentioned that since 2004 (already 19 years) the programmes under the EEA and Norway grants in Slovakia had brought hundreds of implemented projects, numerous of bilateral activities under bilateral funds and preparatory visits and meetings.

He also pointed out that the EEA and Norway grants focused on issues that both the Slovak and Norwegian government considered important, like climate, culture, good governance and cross-border cooperation, inclusion of vulnerable groups, support for non-governmental sector, etc. and that Business and innovation (BIN) is an important programme within these grants in Slovakia.

He underlined that one of the objectives within BIN was to strengthen the institutional cooperation and the international mobility between higher education institutions, upper-secondary schools and enterprises in Slovakia and Norway, Iceland and Liechtenstein and the purpose of this cooperation

was to enhance both the quality and relevance of education and training in Slovakia, including Vocational education and training.

Mr. Ambassador shortly presented the VET system in Norway, which was part of the formal upper secondary education system and allowed students to gain practical experience in their chosen career path before graduating. It had a key economic function in up-skilling and integrating young people into the labour market and in providing high quality technical skills.

It was also stated that know-how transfer and sharing of experience and knowledge were integral part of the implementation of the programme under EEA and Norway grants. The grants were not only contribution to reduce social and economic disparities and strengthen cohesion in Europe, but also a tool to strengthen bilateral cooperation.

He then expressed the wish that the grants came close to the people, helped to change their lives to the better, brought new incentives and economic prosperity.

In closing, Mr. Ambassador expressed his thanks to his colleagues from the Research Agency and partners from Norway and Liechtenstein - Norwegian Directorate for Higher Education and Skills and Agency for International Education Affairs.

Mr. Gušťačík, mentioned that one of the major opportunities of this seminar was to get a better understanding of the three VET systems in three countries – Norway, Liechtenstein and Slovakia and gave the floor to experts on VET from Slovakia, Norway and Liechtenstein.

Juraj Vantuch: VET system in Slovakia: Fundamentals and challenges (ŠIOV)

The main ideas put forward:

1. About 70% of graduates of the secondary schools are in VET, so still the VET stream is strong in Slovakia. We do not have some schools typical in Norway, such as Universities of Applied Sciences.
2. Genuine VET are apprentices. It is a typical VET programme that is completed with certificate of apprenticeship. After this two years of follow-up studies follow. Very specific programme, sort of dual qualification that offer “maturita” is a school-leaving certificate that enables students to enter higher education, while the certificate of apprenticeship is focused on vocational training.
3. The government is supportive of developing dual VET, which is one of three types of practical training provisions. Over 30% of learners are in these type of programmes. In dual programmes there are only 14% and on mixed scheme 20%. So, the dual stream is still weak compared to traditional school-based and mixed schemes. That is why it is necessary to rethink the opportunities to make the system much more flexible.
4. The status of dual learners in Slovakia differs from German-speaking countries, as they are considered regular students rather than employees.
5. Criticisms before introduction of dual was concerning the strong support of the provision of “maturita” school leaving programs to VET students. Schools try to attract learners to enter the VET that is offering “maturita” school leaving certificate, because this is much more attractive for family members. Families in Slovakia are traditionally eager that their children

- are at least “maturita” educated. This led to a change in a VET, but the dominant part of training in fact offered to learners within so called K and M programmes that means that are completed with “maturita” school leaving certificate.
6. Systemic weaknesses and necessary corrections include a need for more flexible work-based learning (only 7,6 % in dual of all VET school full-time learners). There are no alternative pathways for learners for professionalization that would be parallel to this traditional academic stream offering “maturita” school-leaving certificate. Receiving this certificate is a strong driver also for dual learners. It has been proposed to develop alternative ways of professionalization that would lead to recognition of the professionalism of learners who start only with the certificate of apprenticeship. There were proposals to go up up to EQF 6 level but unfortunately this is not in the place. The third weakness is that there are no Universities of Applied Science and therefore there is no natural progression for people who are not really academic oriented and there is also a problem with higher education institution – there are not enough capacities for specific research that is interesting for industries.
 7. Data for evidence-based decision making in VET - the three-pillar graduate recognition system in Slovakia, adopted by the government, is designed to track and analyse graduate data to inform decision-making in education. It is composed of three pillars. One pillar is based on Administrative data (based on Trexima model). The second pillar is half ready – it is intended to do national surveys. The third pillar – School surveys is intended to animate schools to do surveys that is ready to offer data that can inform the curriculum development, to collect data about whether the programmes they were offered were good enough to be used when the graduate entered the labour market and this should be also benefited by watchdogs (Accreditation Agency and State School Inspectorate).
 8. The problem is that we do not have developed employment surveys – there is no know-know here and there is natural player to collect a reliable data. This is also a problem of power sharing and capacities.
 9. The most important problem is fragmentation that could be somehow corrected by newly emerging body that was redefined by amendment of the Act on employment services (5/2004) from 6 December 2022 – this is Alliance of Sectoral Councils (ASC) that should be able to defragment the government but on the other hand it will need to be very clear about focus of their expertise. It will be also important to clarify how to make this Alliance work.
 10. Challenges faced by the VET system in Slovakia include: a need to have supporting work-based learning more functional, more flexible, better targeted and mixed scheme must be financially supported. There must be a Quality assurance model introduced if we want work-based learning more developed and to have in-company training quality check institutionalised. Financial scheme is ill-conceived. Another systemic weakness is that there are no parallel pathways – we need to have Vocational “maturita” and specific Master path focusing on craftsmanship. There are no Universities of Applied Science and no labour market Bc. studies – Bologna reform is ill-conceived. VET governance is fragmented and imbalanced – lacking expertise and unclear power-sharing: Education vs Labour.

Margaret Haukås: VET system in Norway: Fundamentals and challenges (HK-dir)

The main lines put forward:

1. In Norway the children start the school at the age of 6 and at the age of 15 they have completed lower secondary education. At these years they are mainly academic oriented and then there are very few possibilities to get acquainted with different vocation. Up to this level education is compulsory.
2. The next level in Norwegian education system is upper-secondary education. At this level pupils may choose between general academic programmes and vocational programmes. The share of the pupils starting at VET education at this level is approximately 50%, The pupils have the right to upper-secondary education and most of them use it.
3. VET is normally completed with craft and journeyman's certificates – Norway has about 190 in total and the main pathway is two years school-based training at school followed by two years of apprenticeship training in an enterprise.
4. Upper secondary education, both general and vocational programs, are at the European Qualification Framework (EQF) level four.
5. The VET pupils can choose between two main possibilities after upper secondary education: a bridge year for access to universities and university colleges (academic pathway) or progression to higher vocational colleges at EQF level five (vocational pathway).
6. Mastercraft education, currently not linked to the qualification framework, allows for hiring apprentices and labelling one's company as a Mastercraft enterprise.
7. The social partners (employer organizations and trade unions) have of the majority representations in all advisory bodies for at upper-secondary vocational education and higher vocational education. This is key to ensure relevant vocational education at all levels. The Norwegian Ministry of Education and Research has the overall responsibility for VET, but there is a longstand tradition for cooperation between education authorities and social partners.
8. As for upper-secondary education cooperation is organised in the National Council for Vocational Education and Training and the cooperation ensures education and training that meets labour market and skills needs. The cooperation also ensures a quick response to changes through for example changes in the curriculum and to meet the local and regional needs for people with the right competence.
9. For higher vocational education the cooperation is organised through National Council for Higher Vocational Education. This education level is utterly important for the development of competence and specialisation in VET. The objective of the Council is to improve the cooperation between the vocational colleges and the world of work. The Council is also the main advisory body for the Ministry.
10. The social contract for VET is an agreement between the social partners and the ministry and it aims to provide apprenticeship places for all qualified individuals.
11. Although the Ministry has the overall responsibility for education at all levels, the social partners have a very strong voice, and it influences the development of VET at all levels.
12. The two main challenges faced by the VET system in Norway are workforce shortages and completion rates. As regard to the workforce – we are in short of people working and it is not likely that VET will change it in a future. Therefore, it is a goal to increase the number of people employed and we are trying to adapt the system according to it. There is a focus on creating a job opportunities and increase the possibility to study for all individuals across

- the country. The government develops measures in dialogue with the social partners also with the overall goal to increase the number of citizens that participate in the world of work.
13. When it comes to the completion rates – it is a goal to reach 8 out of 10 completion rate within 2030. This goal is also followed by a reform and the main measures are the right to complete upper secondary with a qualification, the right to an apprenticeship, right to requalify, better learning environment and lifelong learning measures.
 14. To sum it up: Norway is trying to meet the challenges with education for all, all over the country and adapted to the needs of individuals. This will hopefully increase the number of people participating in both education and in the world of work.

Marion Kindle-Kuehnis: VET system in Liechtenstein: Fundamentals and challenges (AIBA)

The main ideas put forward:

1. The educational system of Liechtenstein is influenced by the school system of the German speaking countries. Especially Switzerland, as the neighbouring country has a special impact on the structure and educational content of Liechtenstein schools.
2. Children undergo nine years of compulsory schooling at the five grade primary school, followed by the secondary schools. The four-grade lower secondary schools are divided into three tracks: Oberschule, Realschule, and Gymnasium.
3. Since pupils may switch tracks, the path to an academic high school degree (matura) is in principle also open via the Oberschule and the Realschule.
4. After completing compulsory education with 16, approx. 60% undertake an apprentice in the form of dual basic VET.
5. There are more than 110 apprentices offered in Liechtenstein lasting two, three or four years.
6. As well as undertaking their practical training at a host company, 3-4 day/week, apprentices in the dual system must also attend a vocational school 1-2 days/week (depending on vocation), thus facilitating the parallel acquisition of the theoretical knowledge.
7. The system is therefore based on the interplay between practical vocational training within a company, and a theoretically-oriented education at a vocational school, which is also compulsory.
8. The apprenticeship is regulated by an apprenticeship contract, in which the host company, the type of vocation, the length and training, working hours, apprentice wages, vocational school and insurance terms are clearly stated.
9. All apprentices are regulated and supervised by the state in close cooperation with the companies.
10. Why is the dual VET system a state interest? 1. Across the EU, youth unemployment represents one of the most significant problems of the future. 2. With 1,4% Liechtenstein has the lowest youth unemployment rate in Europe.
11. Best practices and challenges: The dual-track VET program is the backbone of the VET system, and contributes decisively to ensuring the competitiveness of local companies. Liechtenstein companies can only maintain a competitive advantage against low-wage countries, through the production of innovative products of high quality, which requires capital-intensive production and a high added value. This is achieved through qualified personnel, engaged permanently in continuing training.

12. Added value for the company: Socially evolved construct; Establishing a bond with the company; The whole economy and the associations benefit from well-trained apprentices.
13. Challenges: Social recognition is crumbling; High maturity rate; Diminishing understanding of dual VET at management level.

Panel Discussion: Is Vocational Education and Training key to ensuring a competent work force for the future?

Mr. Guštafík pointed out that question from the Panel discussion was an important one at the time of major technological advances, political instability and economic uncertainties. The three experts looked at common challenges at how they were approached in their countries.

Leif Kjetil Knudsen - Perspectives from Norway: International work in higher vocational education and training and themes for future collaboration

The main ideas put forward:

1. Fagskolen Rogaland / Rogaland polytechnic is a publicly owned school owned by the regional authorities located in the south-western parts of Norway. We have about 900 full-time students.
2. We deliver training on the EQF level 5 and there is a strong political discussion on how to increase the vocational recruitment and counter academic drift within our national system.
3. We deliver higher tertiary vocational education and training within broad range of fields, such as industrial production and electro, health and upbringing, administrative and economic programs, maritime, petroleum and building and construction. We offer 37 different end competencies. Several implementation models adapted to different professional groups to enable combination of work and studies.
4. The school is involved in various international projects, the longest running collaboration since 2012 together with Faroe Islands, Iceland, Norway and Greenland (FING) where we meet partners and discuss current topics, such as Carbon Capture and Storage and Use of drones in various business sectors. The FING collaboration comprises training providers from oil & gas, minerals and maritime.
5. We also do different kinds of Erasmus projects and we have one within the EEA Financial mechanism 2014-2021 Education Programme.
6. The T-shore project (Technical Skills for Harmonized Offshore Renewable Energy), a four-year Erasmus CoVE (Centre of Vocational Excellence) project, focuses on technical skills for offshore wind energy and aims to develop networks between industry and VET institutions and define competence profiles. The main objectives are to 1. Develop a European network for vocational education and training providers within offshore wind energy sector; 2. Establish strong connections between industry and of VET and connect these to meet the sector's real needs and 3. Understand and define new competence profiles and develop advanced digital and evidence based learning methods in a real (authentic) work life learning environment.

7. International collaborations help strengthen professional competence, enhance educational quality, networks, and opportunities. The overarching purpose of internationalisation is also to pursue projects that provides new didactics and learning methods and support good learning outcomes. We do this through networking, by getting new impulses and ideas and by learning from others / transfer of experience.
8. We have a Center for Innovative Education – a newly awarded status as a National Center of Excellence in Higher Vocational Education, which aims to enhance reputation, recruitment for higher vocational education and vocational education in general. We don't focus on just one aspect.
9. There is also developed a Norwegian government's strategy for higher vocational education and CoE in HVE which stipulates that Centres for excellence in higher vocational education shall contribute to: 1. increasing the professional competence and the quality of training; 2. Strengthen cooperation across educational levels, increase reputation and recruitment; 3. Norwegian higher vocational schools and vocational training being able to distinguish themselves in a European context where the emergence of Centers of Vocational Excellence is seen.
10. The key aspects in the centre to spearhead for innovative education through: 1. Involvement in own learning, in active forms of learning and in practical simulation; 2. Cooperation (Working life, Education sector, Own professional environment; 3. Dissemination work (create good results, share good practice, ideas and resources). The center emphasizes active learning, practical simulation, and close cooperation with work life to ensure training is as close to real-life situations as possible.
11. The centre is a department within our school, but it has several consortium partners –regional authorities and we also have participation in the consortium by the regional branches of the trade unions association and the employers' organisation. We also have representatives from the industry – ship owners forum and the health industry. It mirrors the fact that we always involve the work-life stakeholders in developing new educations and new schemes. We also have associated partners of different kinds, also other tertiary vocational institutions.
12. Within the centre of innovative education there are educational programmes that we want to develop further to enhance sustainability and in accordance with our proposals for future collaboration (See item 13). There are five key aspects of the centre which include sector programs within health, energy and maritime sector, sustainability, digitalization. And as a cross section item (the fifth aspect) we also want to promote development of the learning environment and vocational didactics. We want to work with how to engage students within our health programmes, what new energy transition programmes do we need, but we also aim to establish some spillovers and learning from the different departments and different stakeholders, so we can learn from other industries and other sectors.
13. For the future we would like to develop our organisation and promote the needs of the vocational education within our both regional level but also national and European level to work on educational cooperation, how to enhance the vocational didactics, how can we improve and train-the-trainers, how can we improve the distance learning and making educational programmes more flexible. The other is the professional cooperation together with the industry - how to deal with the (need for) renewable energy, carbon capture and storage, digitalisation, robotics and automation, drones and autonomous systems, health and

care and demographic change and entrepreneurship. There is a value in collaborating on European level – e.g. on the Centres of Excellence and Alliances for innovation.

14. To sum up - our goal is to develop and offer high-quality education in line with the needs of working life and society's expectations. Goal 2 is that Fagskolen Rogaland (FR) must ensure and further develop a good learning and working environment and good educational conditions for the students. Goal 3: FR must maintain and further develop a robust organisation. Goal 4: FR must be robust and flexible enough to handle changes in demand, skills needs, business cycles and various economic framework conditions. Goal 5: FR must be proactive and contribute to CoVE-network Europe: restructuring and innovation.

Juraj Vantuch: Perspectives from Slovakia: Labour market intelligence as a basis for a redefinition of power-sharing between schools and businesses

The main ideas put forward:

1. We need the Universities of Applied Science, because it is not possible that all universities are running the research on an international level. We also need universities that focus not on a research and preparing best PhD. students and researchers, we need specialists and professionals. The same regards to also technicians where it is much more vulnerable because of the dramatic technical changes.
2. We did some strong failures. During the Bologna reform we have simply underestimated the inputs to better focus on bachelor studies. And people at universities are paid depending on a quality of research. So therefore any university is pushed to publish important articles and not to serve the country in terms of preparing for instance quality documents for schools to improve teaching or to offer better analysis how to shape secondary vocational education. Nobody takes care of that at universities as it has no value for them because they will not receive better budget for that purpose. And it does not make sense for them to focus on bachelor studies – that is why there is a need to have Universities of Applied Science. Therefor we need a change in legislation, change in financing and change in accreditation. After that it will be possible to cooperate with Norway on these interesting issues.
3. We have serious problems with lacking expertise. Now we have State Institute of Vocational Education (SIOV), which has only 10 curricula experts to cover all VET programmes.
4. Furthermore, we started with a massive investment from the state budget in support of “employers” site. It is partly because the bodies on the employers' site have not obligatory membership and therefore they are simply weak – they have no money, no experts. But now the government is paying for that and there is a quite solid support of which money can be used for hiring people. Also it is positive that companies are paid for training dual learners. But we have to rethink the capacities to have experts who are able to cover education, research and labour research.
5. Alliance of Sectoral Councils which is under construction is a good opportunity. But it is necessary to clarify the role of the Council.
6. Quality employer surveys to inform curriculum developers on future labour market needs, about what they think is relevant.
7. Six challenges that reflect some weaknesses have been highlighted and the need to be talked about them. We don't have enough experts who can say clearly what training should be about

in an environment where we are expecting huge changes across the supply chain as well. This will have a major impact on the need for manpower, not only in the large car manufacturers, but also in subcontractors and component manufacturers. And this is what we need to examine, and this is something that only the people on the ground, the elites in the companies who are thinking about how the companies will adapt to the new conditions, can talk about.

8. The same applies to the issue of the green economy. If it turns out that our industry is going to change as a result of changes and energy prices, as for example, the aluminium production has ended up in Ziar nad Hronom, then it is likely that there will be no future demand for the skills we want to use in sectors that are highly energy-intensive.
9. I cannot say what will happen, but the specialists in the field, which I am sure the entrepreneurs have, should be able to give us information on what kind of workforce will be needed. Telling schools what to do is not what employers should be expected to do. It takes at least five years for a school to be able to educate new recruits and it needs even more years to set itself up for change.
10. Challenges include a need to address the issue of quality assurance. We have sort of solved it at the level of universities, where standards have been introduced and it is insisted that every university should have an internal quality assurance system. We do not have this resolved at secondary level, nor in dual education.
11. While in traditional dual education in Western countries this is very responsibly covered by strong structures, both financially and in terms of expertise, on the employers' side, in our country the chambers and the employers' organisations do not really have those capacities, despite the fact that the state is now supporting them to build them up. But that does not excuse us. We need to have a clearly built quality assurance model that will cover that training provided in enterprises and we want to expand it further. And this is a very good area for cooperation with foreign countries, where those foreign structures, those staff structures are actually doing this and have been doing it for a long time.
12. We also have to recognise that, in the situation we are in, we are bumping up against the limits of the dual and that we probably cannot expect much expansion, because the expansion that should be happening in relation to SMEs in complicated times always suffers. It is a lesson from abroad that when there is an economic growth, that is when the dual flourishes, and when there is a problem, when production is dampened, that is when there are fewer jobs.
13. What we need is to look at a little school-business collaboration at the local level where the head of the school, the head of the business or the small tradesman is able to be very flexible in agreeing on that. We don't need complicated models for that, that's where we really need to make it flexible and financially incentivise school-business collaboration to capture all those potentials that we can't capture with that big strong scheme of that dual education.
14. There is an importance of collaboration between schools and businesses in shaping VET, drawing from the experience of countries like Poland, where the Council of Directors of Vocational Schools works with the government to address challenges and implement changes.
15. Again, this is a good opportunity to study the experience abroad, how the school-business cooperation works, and we really need to look at funding. And here it has to be said that it

is ill-conceived, unfortunately, for Slovakia in particular it is true that ill-conceived reforms are worse than no reforms at all. It's a big mistake that the reformers didn't realise that they wanted to incentivise schools to compete for pupils, to attract pupils, they just didn't realise that this actually stimulates the market for entry. Schools are competing to lure that pupils, that's why they offer them a matura in the first place, that's why there's this boom in K fields that offer both a matura and an apprenticeship, and that's why they'll take a weaker pupil, because the exit market doesn't matter. Because the reformers have forgotten that they have to stimulate the output market as well. We should have made it clear that we are also going to pay schools for quality, so that they get extra money for quality as well. And then we could actually have also achieved that there would have been natural collectives and that they would then also have said what they have to do to make sure that those graduates are of high quality at the exit. And we can address this very well if we can get that good graduate tracking model going, which is now worked out in theory, it just needs to be finished. And we need to encourage the schools to start looking at that third pillar level at what is happening with their graduates, and we would also need entrepreneurs or employers to do parallel research, which will be targeted as a priority to what is going to happen in the future on the labour market, but could also complementarily look at the views of entrepreneurs on how they see graduates.

16. These are the problems where Slovakia could learn from abroad, whatever institution that may be, because these are the problems that, if not addressed, our vocational education model will not be able to meet expectations. Qualifications need to be flexible, so we absolutely have to change our system based on data that we do not have.

Marion Kindle-Kuehnis - Perspectives from Lichtenstein: Challenges make us inventive – How to be proactive

The main ideas put forward:

1. The main challenge in Liechtenstein is the shortage of skilled workers, which is also a widespread issue across Europe.
2. Three contributing factors to this challenge are the crumbling social recognition, high maturity rate (academic trap) and diminishing understanding of the dual VET system at the management level.
3. Awareness-raising efforts start in elementary schools with visits to laboratories funded by companies and the state, aimed at stimulating interest in STEM subjects.
4. In secondary school, pupils participate in work experience placements and receive guidance and counselling from the state to help them explore their interests and potential career paths.
5. There is also a work guidance with schools done by the state, they help young pupils to get a glimpse of what they want to do.
6. Companies organize hands-on days specifically for girls (Hands on days for women) to encourage their participation in traditionally male-dominated fields.
7. After completing their apprenticeships, VET students receive diploma recognition, public appreciation in newspapers and special events to celebrate their achievements. So the employer, but also society conveys to them that they have achieved an important step in their life.

8. Vocational education and training students receive unique appreciation in Liechtenstein, such as signing the golden book at the castle, a privilege not extended to gymnasium students.
9. High maturity rates and academic traps pose challenges to the VET system. Although a majority of students choose the path to vocational education, the academic path is becoming increasingly important. Therefore the path taken is never a dead end but enables total permeability at all levels.
10. Parents must be encouraged to send their children to an apprenticeship, as they too can achieve a university degree with a vocational apprenticeship with a professional baccalaureate.
11. The permeability and professional baccalaureate provide opportunities for VET students to pursue higher education in Switzerland.
12. Diminishing understanding of dual VET at management level: international companies may lack understanding of the dual VET system, underestimating the capabilities of VET-trained individuals.
13. Along with the internationalization of companies, many managers who are not familiar with the dual VET system, are influencing employment policy. That is why it is very important to keep the value of vocational training high by creating special incentives.
14. Companies supporting the VET system receive plaques as recognition.
15. Liechtenstein promotes participation in WorldSkills competitions to showcase VET-trained students' skills.
16. Decreasing VET enrolment is a concern that needs to be addressed.

Further discussion with the participation of experts:

1. Similar challenges are faced by other countries, such as Norway. This relates to the academic drift.
2. There is growing demand for VET-trained workers in various industries, as evidenced by a report from Norwegian social partners. There is a strong need for VET competence and we need to get the management to know what the options are.
3. There is a problem of money – people at VET earn less than academics, but except of funding, there is also a problem of low status of people coming from the VET. We shall build on a professionalization line that could lead to the vocational matura and then to the vocational higher education and the same with regard to the manually oriented non-academic – that you have a master equivalent to the matura and then even go for an equivalent sort of EQF6.
3. The Norwegian VET system has a progression from certificate of apprenticeship, to journeyman's letter, to master letter, which elevates the students' expertise and ability to manage enterprises.
5. The pandemic showed the importance of skilled workers who can perform tasks without further learning schemes such as healthcare workers and technicians. Taking into account demographic change we need to take into account vocational education. AI reflects a temple change, rapid change of technology and we need to continuously develop our skills and knowledge in a lifelong learning perspective and we don't always have time to train people for a very generic purposes on a high academic level.
6. Considering the climate change, we need to train people to be more to the point to cope with future challenges.

7. The digital transformation requires companies, states, and schools to adapt quickly to changing demands and technologies.
8. We need to increase the recognition of VET both in the financial sense, but there is also social aspect and the status involved. The experience has shown that in the long run the academic wins and we suffer from lacking enough skilled workers. We need to address these problems by spending more time and resources on building up the higher vocational education system also on level 6 and 7 and possibly 8.

Closure of the seminar - summary:

We looked at the three models in Liechtenstein, Norway and Slovakia, what differentiates the VET system, what are some of the common challenges in these respective countries, we touched upon common pain points – some points mentioned: Mr. Knudsen repeatedly underlined the importance of international collaboration which helps strengthen professional competence, enhance educational quality, provides new learning didactic methods. He mentioned the weak ties in the networks, the opportunities that they represent. In Slovakia we also looked at the change from traditional automotive manufacturing to more focus on electric vehicles which Mr. Vantuch mentioned that creates the demand for qualification for certain professions, perhaps more energy-related and energy-focused. In terms of Slovak VET system Mr. Vantuch mentioned that huge challenge is that schools are motivated to recruit students which doesn't make sense regarding to lower and lower number of people who want to go to VET institutions, but there is not enough motivation whether in terms of standards or finance, to ensure quality at the end of the study. He also called for reassessment of financing of the VET system, underlined the importance of graduate tracking and research on the employability. Mrs. Kindle-Kuehnis mentioned the main challenges, such as shortage of skilled workers, crumbling social recognition and the high academic drift, which was repeatedly mentioned by all of experts, with the ever-growing demand for “maturita”. Marion mentioned what were the worthwhile and not worthy efforts to raise awareness about the importance of VET track-in girls and women into the traditional male dominated fields, she mentioned several efforts to bring more public appreciation and recognition whether in the media or through special events. The point of the competitions broad wide and in the final round of discussion -we touched upon the importance of flexibility which was another common theme all mentioned that we were living in a world which required constant adaptation and it was not only agile management in businesses, but it put a lot of pressure also on VET system to produce or help people become ready for this world not only as generalist and specialists, but also for being flexible in re-skilling and upskilling. Because it seems that nobody is going to stay in the same profession for their whole life any longer. All experts from the different perspectives talked about power-sharing between companies and schools, even though the systems might be set up differently in the three countries, the power-sharing is important. There might be a risk for businesses dictating too much what the curriculum is, but it seems that Norwegian experience and experience from Liechtenstein shows, that there might be a way for businesses and social partners to actually have a very heavy say in the curricula which ensures that apprentices and graduates are ready to be employed right away without needing any extra training.