Result 2.3

Report on results on national and legal conditions in the partner countries and alternative solution models for the implementation of training measures

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Language

English

Content

1. Project Summary and Introduction

The word region is defined as “an area, especially part of a country or the world having definable characteristics but not always fixed boundaries”[1]. The Baltic Sea region (BSR) is particularly unique. While the Baltic Sea is the pivotal point defining much of the region’s characteristics and challenges, the countries are also extremely different. Geographically, they are divided between Northern, Western and Central/Eastern Europe, historically, they have been shaped by the East-West divide after the second world war. Nevertheless, given their proximity to the Baltic Sea, they have much in common.

The EU has acknowledged this by issuing the very first macro-regional strategy, the EU Baltic Sea Region Strategy in 2009. As most countries boarding the Baltic Sea were by then EU member states, it can well be considered the EU’s inland sea. The challenges, such as saving the sea, i.e. ensuring clear water, rich and healthy wildlife as well as clean and safe shipping, and the opportunities for a prosperous region through cooperation measures to increase innovation, deepen the single market by improving transportation systems, connecting energy markets and fighting trans-border crime together, make the region very distinct from other parts of the world. Therefore, “BSR integration is best understood as the way that European integration has been translated into this region, further deepening and leveraging access to the rest of Europe and the markets that the EU provides”[2]

Over the past 25 years, this region has become a densely integrated, e.g. in the areas of trade, investment, labor mobility, transport and energy infrastructure as well as research collaboration. Furthermore, it demonstrates a broad landscape of robust cross-border organizations and collaborative efforts. Nevertheless, “companies do not look at the Baltic Sea Region as one integrated market in terms of their strategies. For most of them, the region remains a group of individually small markets within the EU, each with its different dynamics, rivals, and often even regulatory rules’”[3].

Keeping this in mind, the lack of comprehensive regional data collection is surprising. Therefore, as part of the Erasmus+ funded project “Promoting permeability through dual bachelor's programs with integrated initial and further vocational training” (BA&VET), an analysis of the region’s demography, economy, and labour as well as education market has been conducted. The majority of the data is taken from the Eurostat database of the European Union. When needed additional sources, such as the OECD database have been consulted as well.

[1] Oxford Dictionary
[2] Skilling, David (2018). *The Baltic Sea Economies: Progress and Priorities*. Copenhagen: Baltic Development Forum, p.10.
[3] Ibid., p.11

Project summary

Objectives: What do you want to achieve by implementing the project?

- Increasing permeability between vocational and higher education
- Recruiting universities for tasks of further education in climate and environmental protection
- Providing excellently qualified entrepreneurs, managers and skilled workers and reducing the shortage of skilled workers to meet the challenges in climate and environmental protection
- Strengthening the productivity of SMEs through innovation support and R&D projects
- Promoting cooperation between SMEs and colleges/universities

Implementation: What activities are you going to implement?

- Analyses economy, education and labour markets and qualification needs
- Creation of solution models for 4 project countries
- Development and implementation of Train the Trainer program
- Development and implementation of 2 dual three-stage Bachelor's degree programs and 2 further trainings in climate and environmental protection
- Implementation of R&D projects in SMEs
- Quality assurance for training measures and project implementation
- Dissemination, transfer of results and implementation consultation

Results: What project results and other outcomes do you expect your project to have?

- Result report of the analyses of the economy, education and labour markets and qualification needs
- Solution models for four project countries
- Complete train-the-trainer program
- Module manuals with all documentation for two dual three-stage Bachelor's programs in climate and environmental protection
- Two further education programs in climate and environmental protection
- R&D projects implemented in SMEs
- Quality manual and results reports
- Manual, result videos and broad regional transfer of results

Objectives, results and target groups

The main objectives of the project are as follows:

a) Increasing the permeability between vocational education and training and higher education and thus promoting the attractiveness of vocational education and training

b) Strengthening the recruitment of colleges/universities for the important tasks of continuing education in climate and environmental protection

c) Providing highly qualified entrepreneurs, managers and skilled workers who, in addition to good theoretical knowledge, also have practical competences, skills and professional experience in climate and environmental protection and reducing the shortage of skilled workers to cope with the very large tasks in the energy, climate and environmental sector.

d) Attracting entrepreneurs and executives who have all the skills to successfully run a company and perform high-quality tasks in climate and environmental protection

e) Strengthening the productivity and competitiveness of enterprises through knowledge and technology transfer, promotion of innovation and implementation of manageable R&D projects

f) promoting cooperation between SMEs and colleges/universities, strengthening colleges/universities to implement dual courses of study on climate and environmental protection, and promoting entrepreneurship in higher education.

In pursuit of these objectives, the following results will be achieved:

1. Analysis results on the economy, demography, education and labour markets as well as qualification needs in climate and environmental protection

2. Curriculum, Teaching materials, implementation report and evaluation concept and report for teacher training

3. Module handbooks with integrated continuing education, teaching materials, examination regulations, implementation reports as well as evaluation concept and reports for a three-stage dual Bachelor's degree program

- "Business Administration & Sustainable Management of SMEs"
- "Management of renewable building energy technology"

4. Concept for promoting innovation by SMEs and evaluation concept and report

5. Concept for innovation promotion of SMEs and R&D projects carried out for SMEs

6. Concepts and report for the evaluation and quality assurance of qualifications and R&D subsidies as well as project implementation, transfer of results, implementations and implementation consultations

The primary target groups of the project are:

a) school leavers who wish to combine vocational education and training with a bachelor's degree and thus receive excellent employment and professional career opportunities.

b) students who are qualified in higher education and university and at the same time in a company and who are highly welcome in SMEs as managers and professionals or as independent entrepreneurs.

c) owners, managers and specialists of SMEs who are qualified in continuing vocational training, acquire tailor-made competences and skills for high-quality activities in climate and environmental protection and achieve a recognized continuing vocational qualification.

d) SMEs that attract suitably qualified young entrepreneurs, managers and specialists, receive innovation funding and carry out R&D projects together with colleges/universities.

The project addresses the following secondary target groups (beneficiaries):

a) colleges and universities which, in order to expand their educational opportunities in climate and environmental protection, receive all the documents and materials for two new dual bachelor's degree programs in order to meet the labour market needs and the conditions of SMEs in particular.

b) chambers and other vocational training institutions which attract strong young people to vocational training, receive curricula for continuing vocational training modules for the qualification of SMEs and their staff, and cooperate intensively with col-leges/universities in teaching and innovation promotion.

c) teachers, advisers and lecturers from chambers, other VET providers and colleges/universities who are qualified in Train the Trainer programs to provide high-quality further training, to carry out dual study courses in cooperation with companies as well as innovation promotion and R&D projects for SMEs at a high-quality level.

National and legal conditions and solution models

In Germany, the legal conditions are given for the implementation of

- dual Bachelor courses of study
- further vocational training programs with recognised official qualification
- dual Bachelor's degree programs with integrated vocational training and further vocational training

Dual Bachelor's degree programmes and comprehensive further vocational training are being implemented. In Germany, there are already the first dual Bachelor's degree programmes with integrated further training (master craftsman training).

In order to be able to implement the dual Bachelor's degree programmes with integrated vocational training and continuing vocational training developed in the BA&VET project in other EU countries in the future, the project investigated the extent to which there is interest in this in other countries and which legal requirements exist for this. The partner countries included in the project - Estonia, Finland, Germany and Poland - were included in these analyses as examples. The results of these analyses are summarised below.

2. Results summary and solution models

It will be examined whether the integrating study programs developed in the project can be used in different European countries according to the respective interests, different legal regulations and national conditions. The study program integrates three qualifications:

- Initial vocational training
- Further vocational training
- Bachelor's degree program

Accordingly, the possibilities of realization for all three training courses are to be examined. The following countries are included in the examinations.

- Estonia
- Finland
- Germany
- Poland

The results for the individual countries are given in Chapters 3 to 6. The results of the examinations can be summarized as follows.

2.1 Estonia

Initial vocational training

In Estonia there are different forms of initial vocational training: school based and work-based learning. Formal VET is mostly State financed. In 2016/17, 99% of 25 071 initial and continuing VET learners were in State-financed programs. Private VET schools may also apply for State-commissioned education. Initial vocational training cannot be carried out in Estonia as an integrated part of a dual Bachelor's degree program. In order to enable implementation, the Higher Education Act must be amended accordingly. However, this is not desired by vocational schools, universities and companies in Estonia. The principles of higher education need to be substantially changed for implementing vocational training officially in bachelor's degree programs.

For the implementation of the BA&VET project in Estonia, this means that initial vocational training cannot be acquired within the framework of the two dual courses of study. If vocational training is desired or is a prerequisite for admission to official further training examinations, this must be acquired in other ways, for example before the start of the course[4].

Further vocational training

Continuing VET programs are provided at the fourth and fifth levels of Estonian Qualification Framework. For every type of vocational education, learning outcomes, i.e. the knowledge, skills and attitudes acquired as a result of learning, have been described in the Standard of Vocational Education. Further education can be completed

[4] For alternative forms of acquiring vocational training, see Solution concepts for the integration of vocational training and further vocational training, BA&VET Project

in Estonia with an official, recognized qualification. Those entering continuing VET programs must have EQF level 3 qualification or competences in addition to basic education to enroll.
For the implementation of the BA&VET project in Estonia, this means that the further training program "Sustainable Management" can be carried out and completed with a recognized qualification.
In Estonia there are also two official examination regulations with a recognized qualification for qualifying as an energy auditor. Admission to the examination, however, requires the successful completion of a bachelor's degree.
For the implementation of the BA&VET project, this means that the advanced training program "Energy Service Manager" can be carried out, but admission to the examination is only possible if a Bachelor's degree has already been obtained.

Dual Bachelor's degree programs

Dual Bachelor's degree programs can be implemented in Estonia, currently, there is no willingness to include VET training in bachelor study programs in Estonia. The companies and universities/higher education institution are not willing to collaborate at the bachelor level in Estonia. The collaboration is already established and working at VET level studies through apprenticeships studies.
For the implementation of the BA&VET project, this means that the two dual courses with integrated further training developed in the project can be carried out, but a lot of persuasion is required.

Solution model

In summary, the following can be stated for Estonia:

- It is not possible to integrate initial vocational training into dual courses of study.
- The two further training programs "Sustainable Management" and "Energy Service Manager" can be carried out and also completed with a recognized further training degree.
- The two dual study courses of the project with integrated further training could be carried out, but this is rejected by companies and universities/higher education institution.

Against this background, a solution model with the following main activities is recommended for Estonia during the BA&VET project period:

- ✓ Testing and evaluation of the Energy Service Manager further training program and ongoing implementation after the end of the project.
- ✓ After testing, evaluation and completion in Poland, transfer of the further training program "Sustainable Management" to Estonia and ongoing implementation after the end of the project.
- ✓ Testing and evaluation of main modules of the dual Bachelor's degree program "Management of Renewable Building Energy Technology" and ongoing use of the modules after the end of the project for
  a) integration in existing study programs.
  b) further education.

- ✓ After testing, evaluation and completion in Poland, transfer of the dual Bachelor's program "Business Administration & Sustainable Management of SMEs" to Estonia and, after the end of the project, ongoing use of the modules for
  a) integration in existing study programs.
  b) further training.
- ✓ Intensive consultations on the implementation of dual Bachelor's degree programs in the medium term.

2.2 Finland

Initial vocational training

In Finland, school-based VET exists with pronounced internships and extensive project work in companies. The realization of dual vocational training is not possible by law, but is also rejected by business, educational institutions and politics. Vocational qualifications can be completed in school-based VET or as competence-based qualifications. In Finland dual model is mostly understood as a combination of VET and matriculation examination.
In Finland, the implementation of initial vocational training in conjunction with dual Bachelor's degree programs is not possible, but is also not desired here.
For the implementation of the BA&VET project in Finland, this means that initial vocational training cannot be acquired within the framework of the two dual courses of study. If vocational training is desired or is a prerequisite for admission to official further training examinations, this must be acquired in other ways, for example before the start of the course[5] .

Further vocational training

State-recognized further education qualifications can be obtained. The qualifications of completed further VET, and for completes specialist VET de-pend on the qualification titles and competence areas.
For the implementation of the BA&VET project in Finland, this means that the further training program "Sustainable Management" can be carried out and completed with a recognized qualification.

For the qualification as Energy Service Manager there are legal regulations on VET qualifications and on higher education. The education level required for Energy advisor is:

- Bachelor of Engineering or Master of Engineering (university of applied sciences), study field energy technology
- Bachelor of Science or Master of Science in engineering, study field energy technology.
- other educational background, such as environmental engineering and environmental science. In such case further education may be required.

For the implementation of the BA&VET project, this means that the advanced training program "Energy Service Manager" can be carried out, but admission to the ex-

[5] For alternative forms of acquiring vocational training, see Solution concepts for the integration of vocational training and further vocational training, BA&VET Project

amination is only possible if a Bachelor's degree has already been obtained.

Dual Bachelor's degree programs

There are no dual study programs in Finland. The strict education system and legislation do not support dual study programs. In Finland higher education is tightly linked into the surrounding working life.
For the implementation of the BA&VET project, this means that the two dual courses with integrated further training developed in the project cannot be carried out.

Solution model

In summary, the following can be stated for Finland:

- It is not possible to integrate initial vocational training into dual courses of study.
- The two further training programs "Sustainable Management" and "Energy Service Manager" can be carried out and also completed with a recognized further training degree.
- The two dual study courses of the project with integrated further training could not be carried out.

Against this background, a solution model with the following main activities is recommended for Finland during the BA&VET project period:

- ✓ Development of the further vocational training program “Energy Service Manager”.
- ✓ Development of the dual bachelor’s degree program "Management of Renewable Building Energy Technology".
- ✓ After testing, evaluation and completion in Poland, transfer of the further training program "Sustainable Management" to Finland and ongoing implementation after the end of the project.
- ✓ After testing, evaluation and completion in Estonia, transfer of the further training program "Energy Service Manager” to Finland and ongoing implementation after the end of the project.
- ✓ After testing, evaluation and completion in Poland, transfer of the dual bachelor’s program "Business Administration & Sustainable Management of SMEs" to Finland and, after the end of the project, ongoing use of the modules for
  a) integration in existing study programs.
  b) further training.
- ✓ After testing, evaluation and completion in Estonia, transfer of the dual bachelor’s program " Management of Renewable Building Energy Technology " to Finland and, after the end of the project, ongoing use of the modules for
  a) integration in existing study programs.
  b) further training.

2.3 Germany

Initial vocational training

Dual VET is provided in Germany. The integration of dual vocational training in dual bachelor's degree programs has been successfully carried out in Germany for many years.
In conclusion, the dual vocational training developed in the project can be implemented in general and in combination with dual bachelor's degree programs in Germany.

Further vocational training

Continuing training is playing an increasingly important role in improving employability. It is characterized by a wide variety of training providers and a low degree of State regulation.
In Germany, there are a large number of official examination regulations for the attainment of recognized CVET qualifications. It is also possible to integrate continuing vocational education and training programs into bachelor's degree programs, so that two official educational qualifications "continuing vocational education and training" and "bachelor's degree" are achieved.
The conclusion is that the two further vocational training programs developed in the project can be realized in Germany in general and in combination with dual bachelor's degree programs in particular.

Dual Bachelor's degree programs

Dual bachelor's degree programs with approximately half of the training taking place in companies and half in universities are particularly pronounced in Germany and have been successfully implemented here to an increasing extent for many years. It is also possible to integrate initial vocational training and continuing vocational and training programs into bachelor's degree programs.
The conclusion is that all educational measures developed in the project can be realized in Germany in general and in combination with dual Bachelor's degree programs in particular.

Solution model

In summary, the following can be stated for Germany:

- It is possible to integrate initial vocational training into dual courses of study.
- The two further training programs "Sustainable Management" and "Energy Service Manager" can be carried out and also completed with a recognized further training degree.
- The two dual study courses of the project with integrated initial vocational training and further vocational training could be carried out.

Against this background, a solution model with the following main activities is recommended for Germany during the BA&VET project period:

- ✓ Development of the further vocational training program "Sustainable Management".
- ✓ Development of the of the dual bachelor's degree program "Business Administration & Sustainable Management of SMEs ".

- ✓ After testing, evaluation and completion in Poland, transfer of the further training program "Sustainable Management" to Germany and ongoing implementation after the end of the project.
- ✓ After testing, evaluation and completion in Estonia, transfer of the further training program "Energy Service Manager" to Germany and ongoing implementation after the end of the project.
- ✓ After testing, evaluation and completion in Poland, transfer of the dual bachelor's program "Business Administration & Sustainable Management of SMEs" to Germany and implementation after the end of the project.
- ✓ After testing, evaluation and completion in Estonia, transfer of the dual bachelor's program "Management of Renewable Building Energy Technology" to Germany and implementation after the end of the project.

2.4 Poland

Initial vocational training

In Poland, initial vocational education and training (IVET) is organized through a combination of school-based and dual vocational training programs. IVET programs lead to recognized state qualifications, which are awarded to students who successfully complete their vocational training programs and pass the final examinations. The financing of IVET programs in Poland is generally supported by the state budget and is free of charge for students.

Initial vocational training can be carried out in Poland as an integrated part of a dual bachelor's degree program. In Poland, the dual education system, also known as "dual vocational education and training" (DVET), combines both theoretical education and practical vocational training, allowing students to gain practical skills and knowledge while pursuing their academic studies.

In conclusion, the dual vocational training developed in the project can be implemented in general and in combination with dual bachelor's degree programs in Germany.

Further vocational training

CVET qualifications in Poland are classified into two main categories: technician and vocational master craftsman. These qualifications are recognized by the state and are issued by relevant bodies authorized by the Ministry of National Education or other competent institutions, de-pending on the specific field or industry. It's important to note that CVET in Poland is subject to quality assurance measures, including accreditation and monitoring by relevant bodies to ensure that the training programs and qualifications meet the required standards.

The conclusion is that the two further vocational training programs developed in the project can be realized in Poland in general and in combination with dual bachelor's degree programs in particular.

Dual Bachelor's degree programs

Dual bachelor's degree programs do exist in Poland. These programs are commonly referred to as "dual studies" or "studies with practice". They are offered by various universities and vocational schools in Poland in collaboration with companies, providing students with the opportunity to combine academic studies with practical work experience. In 2019, 43 Polish universities provided education in the dual system, combining theoretical preparation with practical vocational training. In conclusion, the implementation of dual bachelor's degree programs with integrated initial vocational training in Poland can have several potential benefits, including enhancing employability, bridging the gap between academia and industry, addressing skills shortages, increasing student.

The conclusion is that all educational measures developed in the project can be realized in Germany in general and in combination with dual Bachelor's degree programs in particular.

Solution model

In summary, the following can be stated for Poland:

- It is possible to integrate initial vocational training into dual courses of study.
- The two further training programs "Sustainable Management" and "Energy Service Manager" can be carried out and also completed with a further training degree.
- The two dual study courses of the project with integrated initial vocational training and further vocational training could be carried out.

Against this background, a solution model with the following main activities is recommended for Poland during the BA&VET project period:

- ✓ After testing, evaluation and completion of the further training program "Sustainable Management" ongoing implementation after the end of the project.
- ✓ After testing, evaluation and completion in Estonia, transfer of the further training program "Energy Service Manager" to Poland and ongoing implementation after the end of the project.
- ✓ After testing, evaluation and completion of the dual bachelor's program "Business Administration & Sustainable Management of SMEs" ongoing implementation after the end of the project.
- ✓ After testing, evaluation and completion in Estonia, transfer of the dual bachelor's program "Management of Renewable Building Energy Technology" to Poland and ongoing implementation after the end of the project.

2.5 Conclusion

There is a growing demand across all fields of studies for practical, professional, work-based higher education in Europe overall, including the partner countries, thus such a dual study program format has a good potential in order to meet the shortage of labor force and to meet the demand of labor market skills. The aim of dual examination is to enable a student not only to gather the practical skills needed in his / her

profession or business but also to reach theoretical knowledge needed to advance in career or business.
Although the competition among bachelor level study programs is certainly high, the offer of the innovative format (dual) will surely serve as an element of attraction, a substantial `selling point`.
Attraction of companies as co-producers of such a dual study program shall be a challenge as 1) the bachelor level pro-grammes are mainly considered by young people (~18~23 of age), 2) this group generally have less working experience, 3) companies mostly need working experience, 4) time devoted to work at the company during the studies is fragmented. The solution for this is to involve companies in the very preparation of the program and create few success stories to ensure further continuation.
The dual bachelor's degree program developed in the project with an integration of vocational initial training and further vocational training

- greatly improves the permeability between vocational and higher education.
- significantly increases the attractiveness of vocational education and training.
- significantly reduces drop-out rates compared to conventional courses of study.
- leads to a holistic learning process that appeals to all the senses.
- meets the expectations and wishes of the younger generation in particular.
- meets the requirements of the labor market and companies in an excellent way.
- provides management and skilled workers in line with demand - especially for SMEs - and makes a decisive contribution to overcoming the growing shortage of skilled workers and young entrepreneurs.
- saves time and resources.

The integrating study programs developed in the project can be transferred on a broad basis and implemented in other European countries. In countries that do not (yet) permit the implementation of dual Bachelor's degree programs, individual modules of the courses can be used for integration into existing degree courses or for further training and represent a valuable enrichment.

3. Estonia[6]

3.1 Initial vocational training

Vocational training in general

Vocational education system in Estonia is regulated by the Vocational Educational Institutions Act. https://www.riigiteataja.ee/en/eli/ee/504092017001/consolide/current

Vocational Education Standard. For every type of vocational education, learning outcomes, i.e. the knowledge, skills and attitudes acquired as a result of learning, have been described in the Vocational Education Standard https://www.riigiteataja.ee/en/eli/515012020003/consolide

The Education Act, https://www.riigiteataja.ee/en/eli/505092022001/consolide

The Estonian Lifelong Learning Strategy, https://www.kogu.ee/wp-content/uploads/2014/05/Lifelong-Learning.pdf

Education strategy 2021-2035, https://www.hm.ee/media/1590/download

Adult Education Act. https://www.riigiteataja.ee/en/eli/529062015007/consolide

Professions Act. https://www.riigiteataja.ee/en/eli/523022015001/consolide

Apprenticeship-type schemes and structured work-based learning programs – Estonia, https://www.cedefop.europa.eu/en/country-reports/apprenticeship-type-schemes-and-structured-work-based-learning-programmes-estonia

The Education Act establishes the organization and principles of the Estonian education system. The Estonian education system is decentralized and, due to its relatively small size, also flexible. Responsibilities are clearly divided between the State, local governments and schools. National curricula are based on learning outcomes. Teachers can choose teaching methods and materials. Education is under the remit of the Ministry of Education and Research (*Haridus- ja Teadusministeerium*). The Estonian lifelong learning strategy 2020 (MoER et al., 2014) guides the most important developments in all education sectors, including vocational education and training (VET).

According to the Professions Act, the Estonian Qualification Framework (EstQF) has 8 levels, the first of which is the lowest and the eighth is the highest. The descriptions of the qualification levels are identical with the EQF level descriptions.

Vocational training is organized by vocational educational institutions and some institutions of professional higher education. In 2021/22 academic year, there were 38 educational institutions providing vocational training in Estonia, including 27 state vocational educational institutions, 2 municipal vocational educational institutions (Kopli Vocational School of Tallinn, Tartu Vocational Education Centre), 4 private vocational educational institutions (1. Est. Priv. Cosmetic School; Maridel School of Hair Design,

[6] Compiled by Mihkel Kiviste, Tallinn University of Technology (TalTech), Tartu College, 2023

Est. Massage and Therapy School; German Tech. School of Pärnu) and 5 institutions of professional higher education (Est. Aviation Academy, Est. Nat. Defence College, Est. Acad. Of Security Sciences, Tallinn& Tartu Health Care College). (https://www.hm.ee/en/education-research-and-youth-affairs/general-education/vocational-education#professional-higher-)

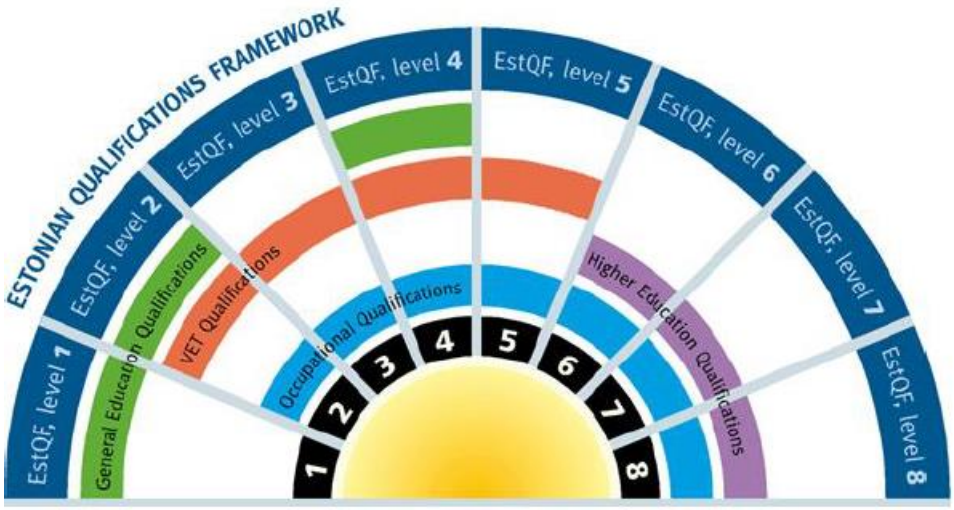
Types of vocational education are related to the levels of the Estonian Qualification Framework (EQF).

General upper secondary education is provided by so-called gymnasium. This three-year program gives graduates access to higher education, provided through academic and professional programs. Professional higher education programs are formally not considered VET. Professional higher education institutions may also provide post-secondary VET programs along with higher education.

Most VET is provided at upper secondary and post-secondary levels. VET programs are also available for learners without completed basic education. However, participation at lower levels is marginal.

Formal education qualifications	Level	Occupatonal groups and occupational qualifications
Basic education certificate based on simplified curriculum;	1	
Basic education certificate; VET certificate level 2 (without basic education requirement)	2	**Elementary workers** (Cleaner assistant...)
VET certificate level 3	3	**Skilled workers, machine operators, Service and sales workers, Clerical support workers** (Logger, Baker, Carpenter, ...)
Upper secondary general education certificate; VET certificate level 4 (upper secondary VET)	4	
VET certificate level 5 (based on upper secondary education certificate)	5	**Technicians and craft masters, front line managers, clerical workers** (Electrician, Construction Site Manager, Accountant, ...)
Bachelor's degree, Professional higher education certificate	6	**Specialists, supervisors** (Energy auditor, Career Counsellor, ...)
Master's degree	7	**Specialists, managers** (Diploma Engineer, ...)
Doctoral degree	8	**Senior specialists, top managers** (Principal Architect, Chartered Engineer, ...)

The Vocational Educational Institutions Act (Parliament, 2013) distinguishes between initial and continuing VET. Initial VET (vocational education and training) programs are provided at the second, third, fourth and fifth levels of EQF. Continuing VET programs are provided at the fourth and fifth levels of Estonian Qualification Framework.



Source: Cedefop and ReferNet Estonia.

While both types provide the knowledge, skills and attitudes necessary to enter the la-bour market, initial VET also gives learners access to the next qualification level. Non-formal continuing VET is part of adult learning regulated by the Adult Education Act.

There are several VET learning options:

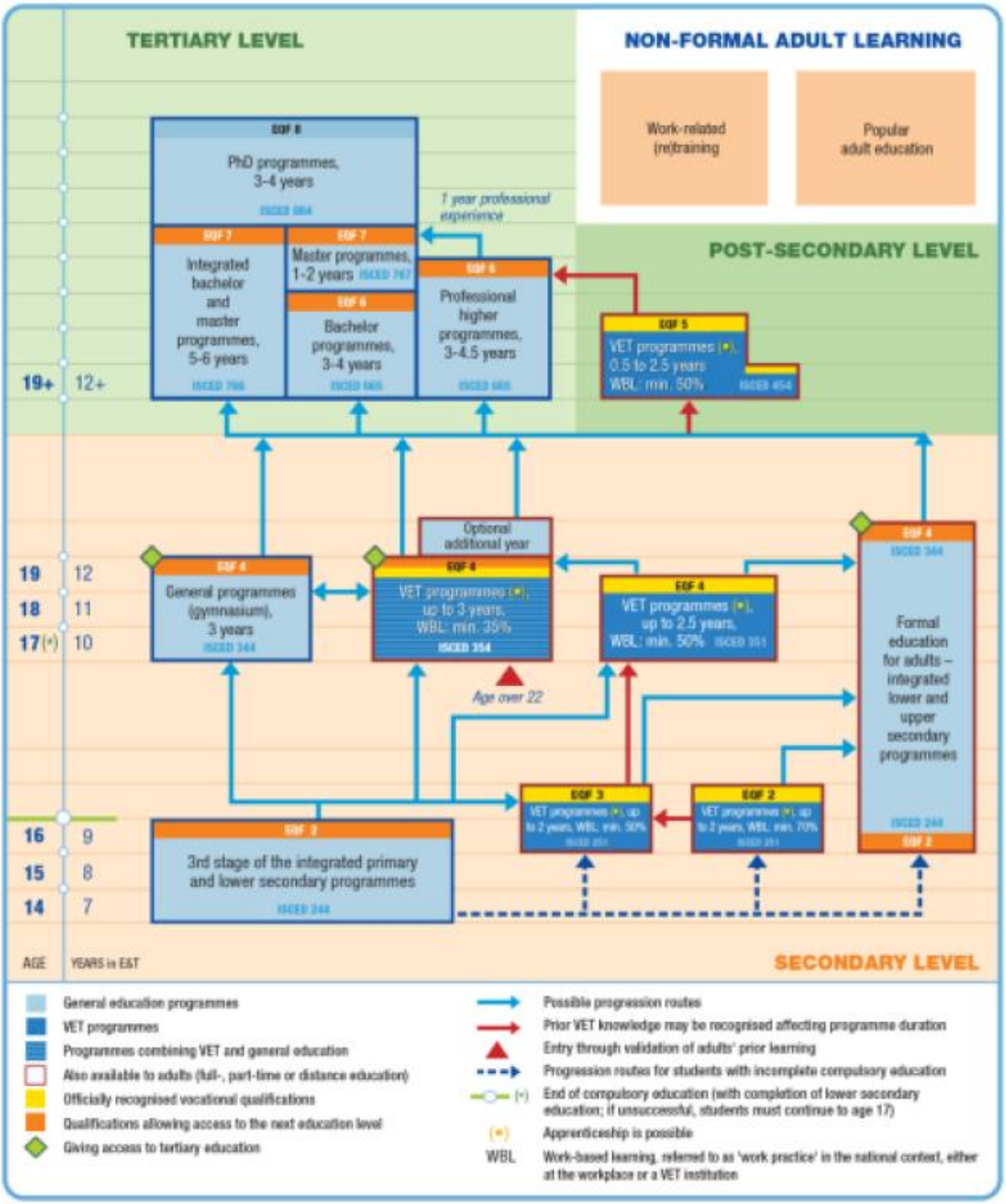
a) school-based learning (contact studies, including virtual communication with the teacher/trainer);
b) work practice (practical training at school and in-company practice);
c) self-learning (excludes work practice; at least 15% of a program should be acquired through autonomous learning; if it exceeds 50%, the program is considered to be ‘non-stationary’; 16.8% of VET learners were in ‘nonstationary’ programs in 2016/17, mostly at EQF levels 4 and 5).

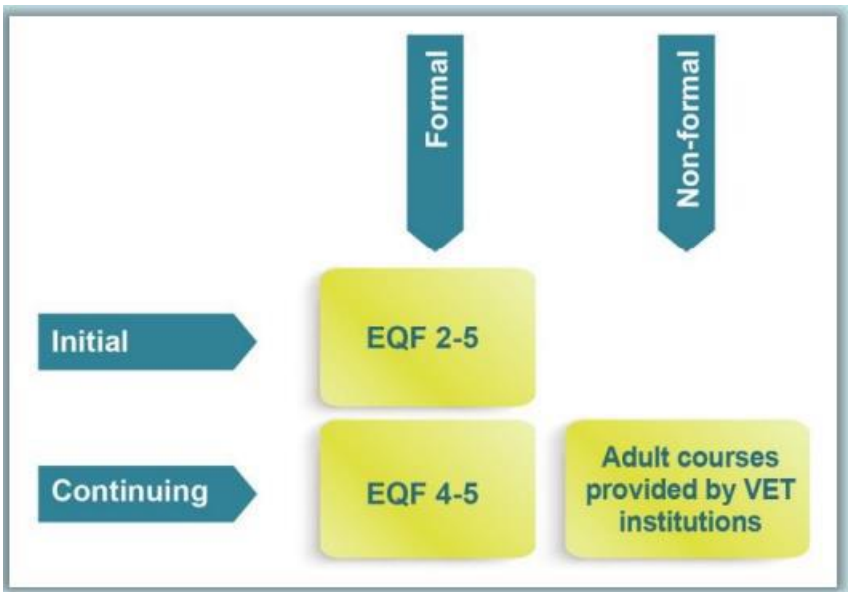
Apprenticeships were introduced to VET as a stand-alone study form in 2006.

VET learners may receive two qualifications simultaneously: a formal education qualification awarded after completion of a program; and a professional qualification that is a professional certificate verifying learning outcomes for a specific occupation or profession (Cedefop, 2017). There are referred as VET qualification and professional qualification. To complete a VET program, learners need to pass a final examination that can be also replaced by a professional qualification examination, if available. Both ex-aminations are similar. They are learning outcomes based and usually include a practical part.

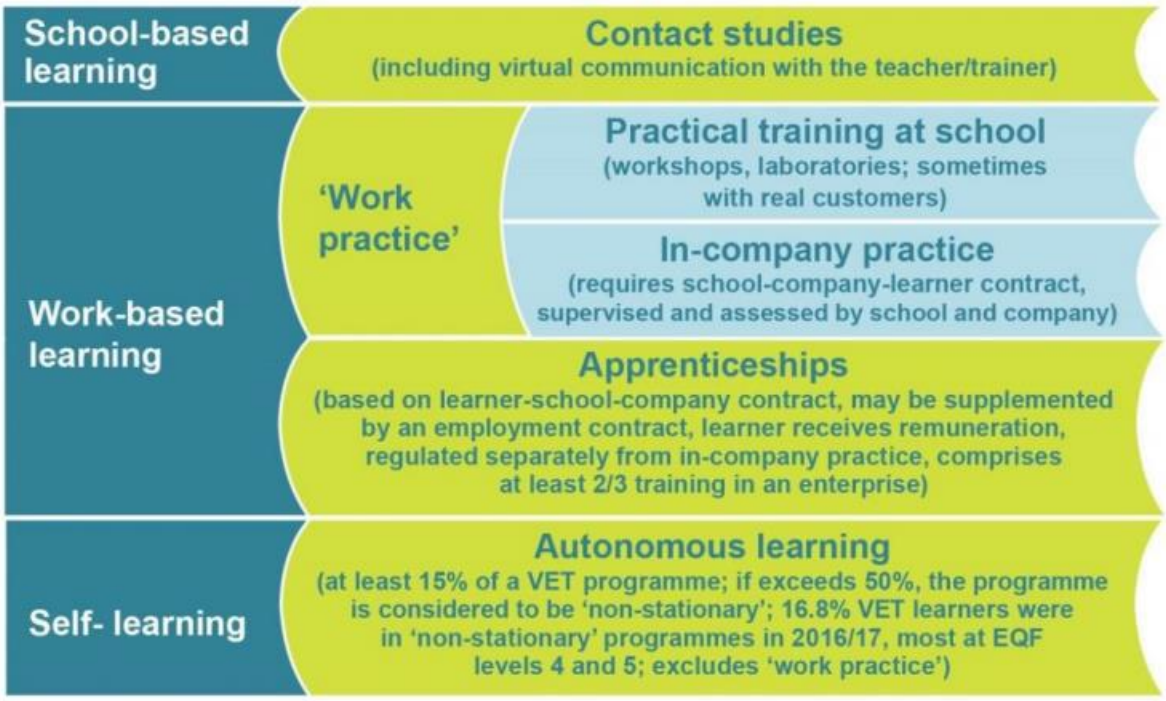
In addition to VET examinations, State examinations (mother tongue, mathematics and foreign language) are available for upper secondary VET graduates as an

option. They are organized centrally by the Education and Youth Board (Foundation Harno).





Source: Cedefop and ReferNet Estonia.

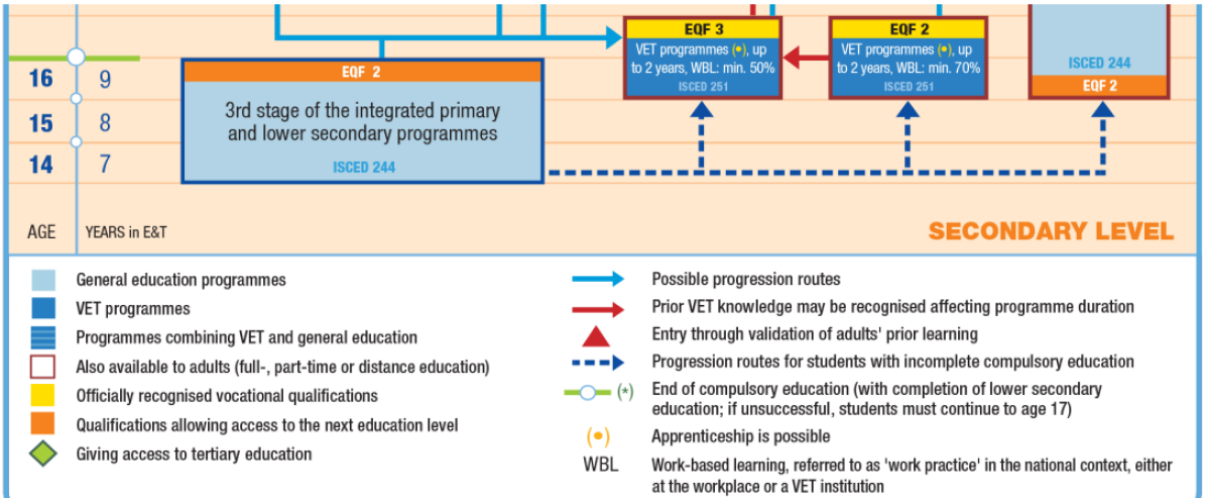


Source: Cedefop and ReferNet Estonia

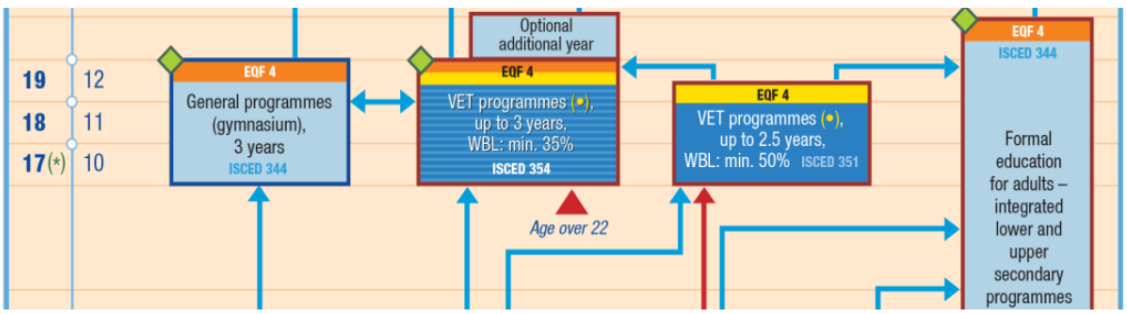
The volume of vocational education curricula is calculated in vocational education credit points. One credit point corresponds to 26 hours spent on studies. The yearly study volume is 60 credit points.

- Level 2 vocational education (ISCED 251). The study volume is 15–120 credit points. The cleaner assistant is 15 credits (0.25 years = 390 hours of study) while assistant gardener is 120 credit points (2 years = 3120 hours of study). The program lead prepare for elementary occupations, such as cleaner assistant, assistant gardener, electronics assembly operator, logger. The proportion of work practice and practical work in the curriculum is at least 70%.

- Level 3 vocational education (ISCED 251). The study volume is from 15 (0.25 years = 390 hours of study) to120 credit points (2 years = 3120 hours of study). The proportion of work practice and practical work in the curriculum is at least 50%, usually half of studies take place at a VET institution and the other half at an enterprise. The program prepares for occupations such as woodworking bench operator and electronic equipment assembler.



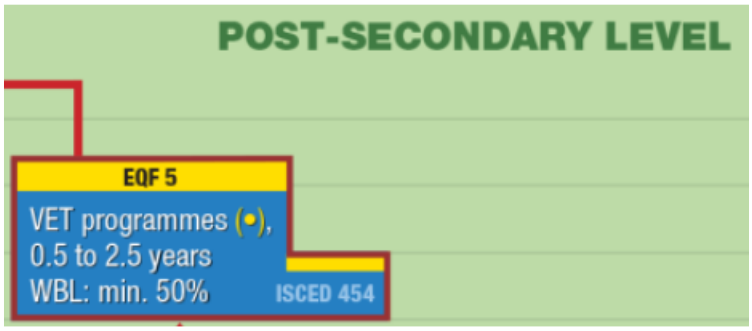
- Level 4 vocational education o Initial VET training curricula (ISCED 351, neljanda taseme kutseõpe) – the study volume is from 15 (0.25 years) to 150 (2.5 years) credit points. The study volume is 180 credits (3 years) for music and performance programs. The proportion of work practice and practical work in the curriculum is at least 50%. Graduates can work in more complex occupations, such as welder, junior software developer, IT systems specialist, farmworker, but the program does not provide general education.
  - Continuing VET training curricula – a profession corresponding to qualification level 4 or corresponding knowledge and skills required in addition to basic education for beginning studies. The study volume is from 15 (0.25 years) to 60 credit points (1 year) , the proportion of work practice and practical work in the curriculum is at least 50%.
  - Initial VET comprising both general education and VET modules (ISCED 354) so called „upper secondary VET"– the graduate obtains secondary education in addition to a profession. The study volume is 180 credit points (3 years = 4680 hours of study), the proportion of work practice and practical work in the curriculum is at least 35%.



- Level 5 vocational training i.e. specialized vocational training: o Initial training curricula – the study volume is 120 (2 years) –150 (2,5 years) credit points. The volume for military and public defense programs is from 60 (1 year) to 150 (2.5 years) credits. The proportion of work practice and practical work in the curriculum is at least 50%.
  Continuing training curricula – a profession corresponding to qualification level 4 or 5 or corresponding knowledge and skills required in addition to secondary education for beginning studies; the study volume is 15 (0.25 years) to 60 (1 year) credit points. The proportion of work practice and practical work in the curriculum is at least 50%.

A vocational examination is normally taken to finish vocational training.

Graduates of both initial and continuing VET can enter the labor market or follow further pathways in bachelor or professional higher education studies; graduates of initial VET may also progress in continuing VET.



Are there entry requirements?

• Level 2 vocational education – no requirement on the level of education – people with unfinished basic education can begin studies, but learners must be at least 17 years old to enroll.

• Level 3 vocational education – no requirement on the level of education – people with unfinished basic education can begin studies, but learners must be at least 17 years old to enroll.

• Level 4 vocational education – basic education required for beginning studies. As an exception, persons aged 22 and above with unfinished basic education may begin studies of vocational secondary education granted they have skills and knowledge corresponding to basic education.

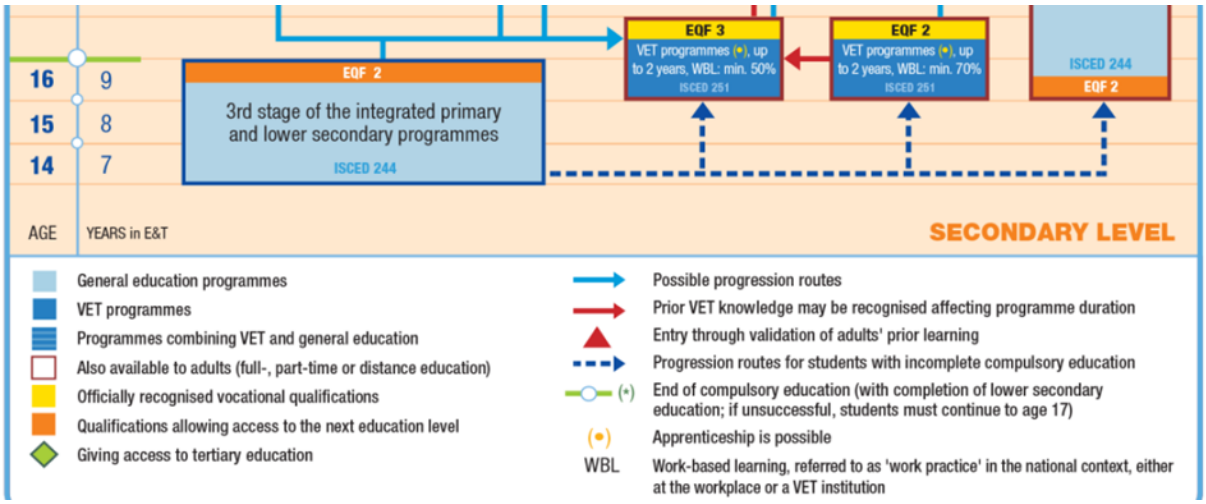
• Level 5 vocational training i.e. specialized vocational training – upper secondary education is required for beginning studies. Learners are also required to have an EQF level 4 or 5 VET qualification or relevant competences.

Is there a recognized state qualification?

Yes, according to Estonian Qualification Framework (EQF).

• Initial program lead to EQF level 2 (teise taseme kutseõpe, ISCED 251) qualification and prepare for elementary occupations, such as cleaner assistant, assistant gardener, electronics assembly operator, logger.

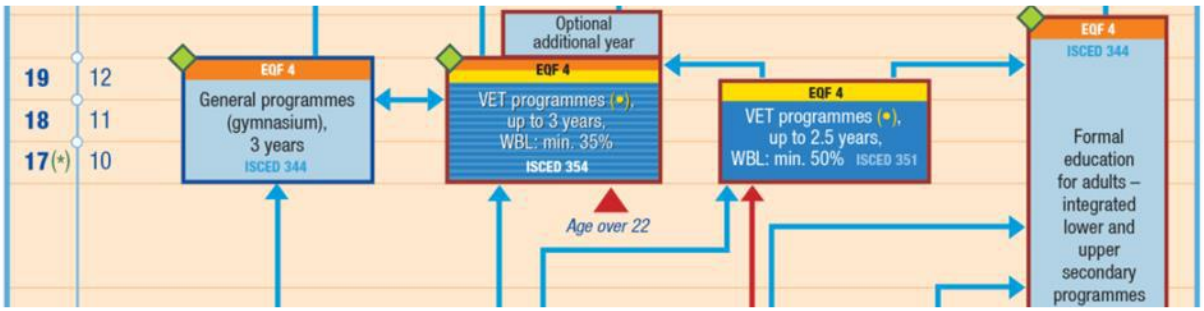
• Initial program lead to EQF level 3 qualification (kolmanda taseme kutseõpe, ISCED 251) program. A graduate of third-level vocational training has vocational, professional and occupational training that is in general sufficient for working in the basic professions categorized under the major group “Plant and machine operators and assemblers”, “Craft and related trades workers”, “Skilled agricultural, forestry and fishery workers” or “Service and sales workers”.



• Initial VET programs (neljanda taseme kutseõpe, ISCED 351) lead to qualifications at EQF level 4. Graduates can work in more complex occupations, such as welder, junior software developer, IT systems specialist, farmworker, but the program does not provide general education.

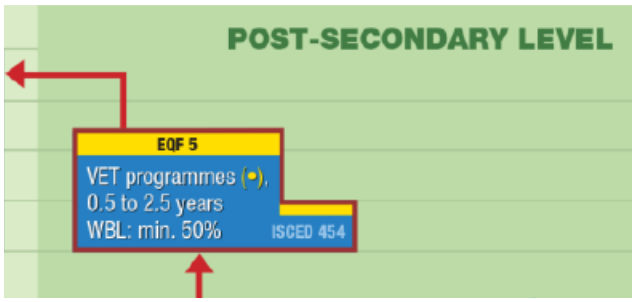
• Those entering continuing VET programs must have EQF level 4 qualification or competences in addition to basic education to enroll. Graduates can work in occupations such as electrical network installer, men’s (gentlemen’s) tailor.

• Initial ‘upper secondary VET’ programs lead to EQF level 4 (kutsekeskharidusõpe, ISCED 354) qualification, such as heat pump installers and catering specialists. They also give graduates access to higher education, provided the entry requirements are met. At the end of the program, all graduates have to pass final examinations; it is also possible to sit professional qualification examinations. Higher education institutions may require passing State examinations (mathematics, foreign language and mother tongue) in addition to VET qualifications. An optional additional year of general education (bridging program) is available for graduates to help prepare for the State examinations. However, this option has not been widely used.



• Initial programs of EQF level 5 award qualifications such as accountant, business administration specialist, sales organiser, and small business entrepreneur.

• Continuing programs of EQF level 5 offer qualifications in occupations such as tax specialist, vehicle technician, information management specialist and farmer.



Source: https://www.eesti.ee/en/education-and-research/vocational-and-higher-education/vocational-education

Who supervises the training?

Managing qualifications. Several bodies are involved in designing, updating and awarding qualifications:
(a) the education ministry;
(b) professional councils;
(c) awarding bodies;
(d) qualifications committee;
(e) assessment committee. Promoting permeability through dual bachelor's programs with integrated initial and further vocational training (BA&VET)

The Ministry of Education of Estonia is responsible for developing a professional qualifications system. This task is delegated to the *Qualifications authority* (*Kutsekoda*), a private foundation led by a council comprising representatives of the Chamber of Commerce and Industry; Employers' Confederation; Employees' Unions Confederation; Confederation of Trade Unions; and the Ministries of Education, Finance, Economic and Social affairs. The Qualifications authority organizes and coordinates the activities of professional councils and keeps the register of professional qualifications.

Professional councils represent 14 job sectors. The councils approve and update professional standards and are represented equally by trade unions, employer organizations, professional associations and public authorities. Chairs of professional councils form a board of chairmen for these councils to coordinate cooperation between them.

Professional councils select awarding bodies (public and private) to organize the assessment of competences and issue qualifications. The awarding bodies are selected for five years through a public competition organized by the qualification's authority. VET providers may also be given the right to award qualifications, if the curriculum of the institution complies with the professional standard and is nationally recognized. Qualifications are entered into the register of professional qualifications. In 2016, there were 115 institutions awarding professional qualifications.

The awarding body sets up a committee involving sectoral stakeholders: employers, employees, training providers, and representatives of professional associations. Often it also includes customer representatives and other interested parties. This ensures impartiality in awarding qualifications. The committee approves assessment procedures, including examination materials, decides on awarding qualifications, and resolves complaints. It may set up an assessment committee that evaluates organization and results of the assessment and reports to the qualifications committee.

The assessment committee verifies to what extent the applicant's competences meet the requirements of the professional qualification standards. The assessment criteria Promoting permeability through dual bachelor's programs with integrated initial and further vocational training (BA&VET) are described in the rules and procedures for awarding the qualification or in the respective assessment standard.

A person's competences can be assessed and recognized regardless of whether they have been acquired through formal, non-formal or informal learning.

Who takes the examination?

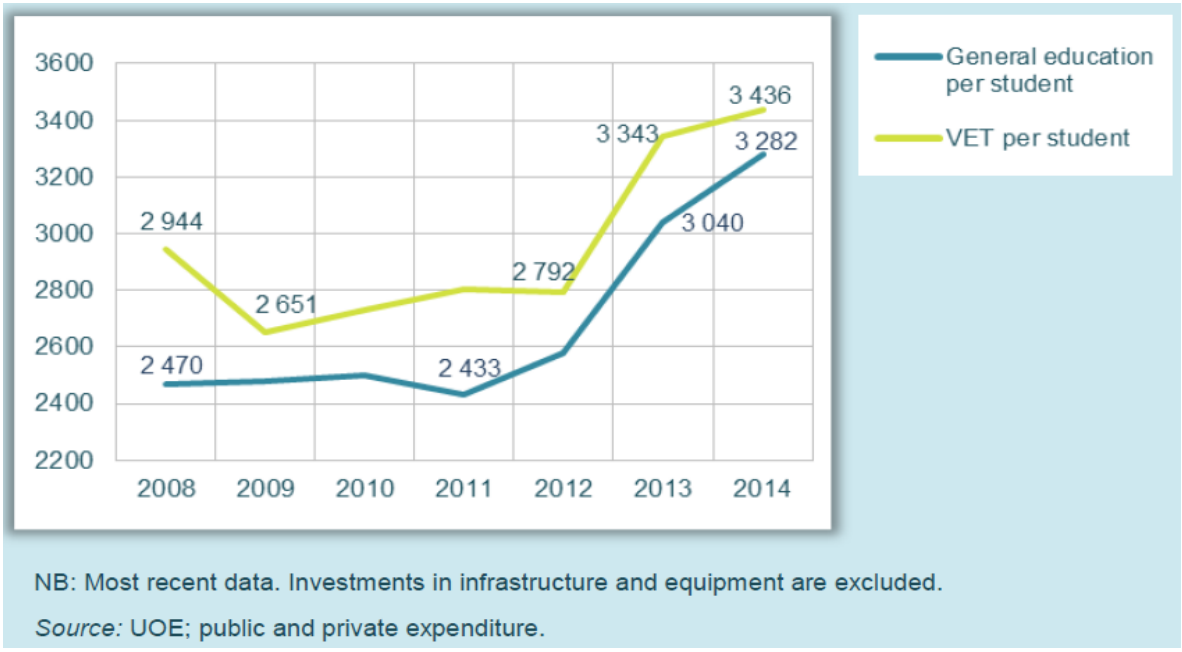
To complete a VET program, learners need to pass a professional qualification examination, if available. That can be replaced by a final examination if unsuccessful in the professional qualification examination. Both examinations are learning outcomes based and usually include a practical part.

In addition to VET examinations, State examinations (mother tongue, mathematics and foreign language) are available for upper secondary VET graduates as an option. They are organized centrally by the Education and Youth Authority (Harno).

How is the training financed?

Formal VET is mostly State financed. In 2016/17, 99% of 25 071 initial and continuing VET learners were in State-financed programs. Private VET schools may also apply for State-commissioned education.

In 2016/17, the base cost of a program per learner per year (60 credits) was EUR 1 665 multiplied by a coefficient (1.0 to 4.0) depending on curriculum group, study form and learner special needs. The cost covers staff salaries, training materials and maintenance (such as heating and electricity). The government defines the base cost for each calendar year. This financing mechanism applies to all VET levels and forms.



NB: Most recent data. Investments in infrastructure and equipment are excluded.

Source: UOE; public and private expenditure.

Vocational Education Curricula at Tartu Health Care College:
• Care worker (120 ECVET; 2 years; in Estonian)
• Childminder (60 ECVET, 1 year, in Estonian)
• Emergency Medical Technician (60 ECVET, 1 year, Estonian)
• Masseur/masseuse (120 ECVET; 2 years, In Estonian)
• Client worker for People with mental health problems (60 ECVET; 1 year; 2/3 of the training takes place at the workplace and 1/3 in the College.)
• Podologist (120 ECVET, 2 years).

Are there any special features?

• After completing basic school in Estonia, only about one-quarter (26%) of students enter VET programs, while 70% of students enter upper secondary general education.
• Basic school graduates with very low-grade point averages (below 3.3), about 70% enter VET tracks (their choices on this point may be limited), while of those with top scores (above 4.6), only 2% opt for VET.
• slightly decreasing participation in VET and merging providers due to demographic and migration challenges;
• the share of adult learners (age 25 and over) in initial and continuing VET has more than doubled reaching 35.3% of the total VET population in 2017/18 reflecting demographic trends but also changing labour market needs.
• rapidly developing but still relatively small share of dual VET;
• there are more females in post-secondary VET than males;
• early drop out has increased and it is still high from VET; the risk is the highest in the first year of VET studies (40% of those with average grade less than 3.29 drop out in the first year).

Vocational training integrated into Bachelor's degree programs

Initial vocational training cannot be carried out in Estonia as an integrated part of a dual Bachelor's degree program.
Higher Education Act, https://www.riigiteataja.ee/en/eli/529082019022/consolide

Is the implementation of such training courses desirable from your point of view?

The principles of higher education need to be substantially changed for implementing vocational training officially in bachelor’s degree programs. Vocational training is implemented already into Estonian Vocational Education Programs. As the Estonian Education System is rather small, it is not expected Promoting permeability through dual bachelor's programs with integrated initial and further vocational training (BA&VET) that the vocational training will be officially implemented into higher education programs.

Studies at the level of higher education consist of three levels:

1) the first level involves bachelor’s studies and studies in professional higher education;

2) the second level involves master's studies;
3) the third level involves doctoral studies.

The basis for studies at the level of higher education is a study program that provides for the objectives and learning outcomes of the studies, the standard duration of the program, the standard workload, the conditions of commencement of the studies, the list of courses, the possibilities of specialization, and the conditions of completion of the studies.

The workload of bachelor's studies and studies in professional higher education is 180–240 credits and the standard duration of the study program is three to four academic years. Bachelor programs in Estonia: https://www.studyinestonia.ee/study/programmes/bachelors-programmes.

The workload of master's study programs is 60–120 credits (standard duration of the study program is one to two academic years). Master's programs in Estonia: https://www.studyinestonia.ee/study/programmes/masters-programmes

Studies of medicine, veterinary medicine, pharmacy, dentistry, architecture, civil engineering and teaching in primary school are organized in the form of integrated bachelor's and master's studies. The workload under medicine and veterinary medicine programs is 360 credits (standard duration of the study program is six academic years). The workload of under pharmacy, dentistry, architecture, civil engineering and primary school teacher programs is 300 credits (standard duration of the study program is five academic years).

Overall, there are 18 educational institutions offering higher education in Estonia:

• 6 public universities (University of Tartu, 146 programs https://ut.ee/en/curriculum; Tallinn University of Technology (TalTech), programs in English: https://taltech.ee/en/programmes; Tallinn University, programs: https://www.tlu.ee/en/erialad; Estonian University of Life Sciences; Estonian Academy of Arts, programs: https://www.artun.ee/en/curricula/; Estonian Academy of Music).

• 1 privately owned research university (Estonian Entrepreneurship University of Applied Sciences).
• 7 state universities of applied sciences (Tallinn University of Applied Sciences, Tallinn Health Care College; Tartu Health Care College, Estonian Aviation Academy; Estonian Academy of Music and Theatre, programs: https://eamt.ee/en/studies/curricula/)
• 4 private universities of applied sciences (Estonian Business School).

For example: Tartu Health Care College offers the following Higher Education Curricula:

• Nursing (210 ECTS; 3.5 years, program in Estonian)
• Midwifery (270 ECTS, 4.5 years, in Estonian)
• Physiotherapy (180 ECTS; 3 years, in Estonian)
• Radiography (210 ECTS; 3.5 years, In Estonian)

• Biomedical Laboratory Science (210 ECTS; 3.5 years, in Estonian)
• Environmental Health Specialist (180 ECTS, 3 years, in Estonian

Tartu Health Care College offers the Master`s Program In Radiography (120 ECTS, 2 years, in English).

3.2 Continuing vocational training

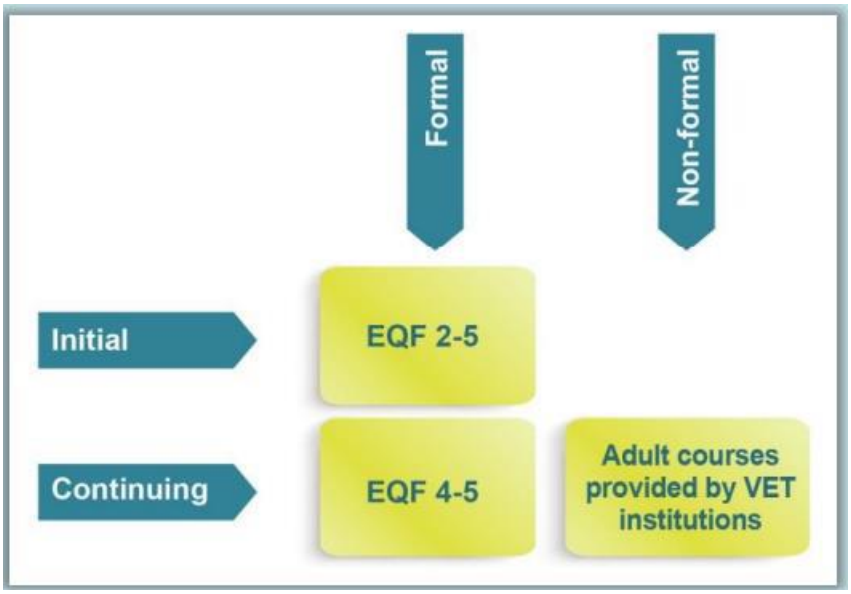
Continuing vocational education and training in general

Standard of Vocational Education: https://www.rigiteataja.ee/en/eli/515012020003/consolide

Vocational Educational Institutions Act: https://www.rigiteataja.ee/en/eli/ee/504092017001/consolide/current

Continuing programs of EQF level 5 offer qualifications in occupations such as tax specialist, vehicle technician, information management specialist and farmer. Graduates can work in occupations such as electrical network installer, men's (gentlemen's) tailor.

Continuing VET programs are provided at the fourth and fifth levels of Estonian Qualification Framework. For every type of vocational education, learning outcomes, i.e. the knowledge, skills and attitudes acquired as a result of learning, have been described in the Standard of Vocational Education.



Source: Cedefop and ReferNet Estonia.

While both types provide the knowledge, skills and attitudes necessary to enter the labor market, initial VET also gives learners access to the next qualification level. Non-formal continuing VET is part of adult learning regulated by the Adult Education Act (Parliament, 2015) (Section 2.4).

The regulations are issued by the Ministry of Education and research of Estonia, delegating the qualification part to Estonian Qualification Authority (Foundation Kutsekoda), https://www.kutsekoda.ee/en/, which develops qualifications standards.

The exam is accepted by a committee formed by the relevant Estonian Association, who holds the right to issue certificates. E.g. the Estonian Construction Entrepreneurs Association (EEEL), which consists of construction specialists and specialized teachers from other vocational education institutions.

The right to issue certificates has limited time and should be applied by a public procurement process.

Both, public and private institutions are allowed to provide VET. In Estonia, there are 27 state vocational educational institutions, 2 municipal vocational educational institutions, 4 private vocational educational institutions and 5 institutions of professional higher education.

Those entering continuing VET programs must have EQF level 3 qualification or competences in addition to basic education to enroll.

Qualification as Energy Service Manager

Estonian Society of Heating and Ventilation Engineers is the awarding body which holds the right to issue certificates.

Awarding Bodies: Eesti Kütte- ja Ventilatsiooniinseneride Ühendus

Back: Awarding Bodies |

Name of Awarding Body:	Eesti Kütte- ja Ventilatsiooniinseneride Ühendus
Type:	Awarding body Awarding body of partial occupational qualification
Address:	NK 99, Narva mnt 1, 10502 Tallinn
Webpage:	www.ekvy.ee

Contacts

No	Field	Contact	Phone(s)	e-mail
1		Aare Vabamägi	521 0530	kutsed@ekvy.ee
2		Mikk Maivel	56 461 251	mikkmaivel@gmail.com

Occupational qualifications to be awarded

#	Occupational qualification standard
1	Energy Auditor, EstQF Level 6
2	Diploma Energy Efficiency Specialist, EstQF Level 7
3	Chartered Energy Efficiency Specialist, EstQF Level 8

Partial occupational qualifications to be awarded

#	Partial occupational qualification	Occupational qualification standard
1	Energy Use Modeller, EstQF Level 7	Diploma Energy Efficiency Specialist, EstQF Level 7
2	Energy Auditor, EstQF Level 7	Diploma Energy Efficiency Specialist, EstQF Level 7

This is a nationally recognized qualification. https://www.kutseregister.ee/en/standardid/klassifikaator/.

• Energy Auditor 6 Complete occupational qualification, level 6 of EstQF
• Energy auditor 6 includes partial qualification Preparation of Energy Audits for Residential Buildings, level 6 of EstQF
• Diploma Specialist in energy performance of buildings, level 7 of EstQF
• Chartered Specialist in energy performance of buildings, level 8 of EstQF

The qualification is applied through the professional Association. In this case. Estonian Association of Heating and Ventilation Engineers. The relevant documents are in web page: https://www.ekvy.ee/et/?option=com_sppagebuilder&view=page&id=52.

Qualification skills are assessed by an evaluation committee of at least three members formed by the vocational committee, with the following methods:

a) Assessment of application documents; b) conversation (if necessary); c) written examination, which will be performed always on initial application of qualification. In re-application, the necessity of written examination will be clarified, based on the documents presented.

When applying for the qualification of Energy Auditor, Level 6, occupation-specific competences B.2.1-B.2.5 and recurring competence B.2.6 must be certified.

For the application /re-application of occupational qualification continuous professional development through trainings are required. For that continuing education points (TP) are earned at courses, seminars, etc.

3.3 Dual Bachelor's degree programs

Dual Bachelor's degree programs can be implemented in Estonia, but it seems unlikely that they will be realized. Currently, there is no willingness to include VET training in bachelor study programs in Estonia. After that the Higher Education Act of Estonia need to be changed.

The companies and universities/higher education institution are not willing to collaborate at the bachelor level in Estonia. The collaboration is already established and working at VET level studies through apprenticeships studies.

The attitude of Estonian society towards the quality of Vocational Education needs to be improved.

The willingness of companies is necessary. So far, no company is not willing to contribute their resources on developing new study programs, because they believe it's not profitable for the company.

Legal regulations: Higher Education Act: https://www.riigiteataja.ee/en/eli/529082019022/consolide

The introduction of dual study programs is not necessary from companies' point of view. The practical skills of the students at companies are being learned rather quickly.

Larger companies and Estonian associations have developed other means to support bachelor/master students, through company scholarships E.g. of Eesti Energia, VKG, Artec Design, Capital Mill, Estonian Rail, Kitman Thulema, Ruukki Products, Scanfil, Architecture (Uno Tölpus), Adven. Estonia Associations have developed statutes for awarding the most significant bachelor or master theses in their fields, e.g. Estonian Assoc. of Furniture Producers, Est. Assoc. of Timber Houses, Est. Concrete Society, Estonian Deference Ministry etc.

Learning in company, has not related in earning university/higher education credit points.
Sometimes, one supervisor for bachelor/master thesis can come from company, but the other supervisor has to be from university/higher education institution.
Sometimes an idea or topic for bachelor or master thesis is originating from company (or from private sector larger). Usually, a person from this company will be one co-supervisor for a bachelor or master student. The other co-supervisor comes from an university of higher-education institution.

Voluntary based learning in company is possible.

Apprenticeships (töökohapõhine õpe) in VET were introduced in 2006 (Parliament, 2013, Article 28). Apprenticeships can be offered at all VET levels and in all its forms (initial and continuing), and lead to qualifications at EQF levels 2 to 5. Apprenticeships follow the same curricula as school-based programs. VET institutions cooperate with employers to design implementation plans for apprentices based on the existing curricula. General characteristics of apprenticeship programs are:

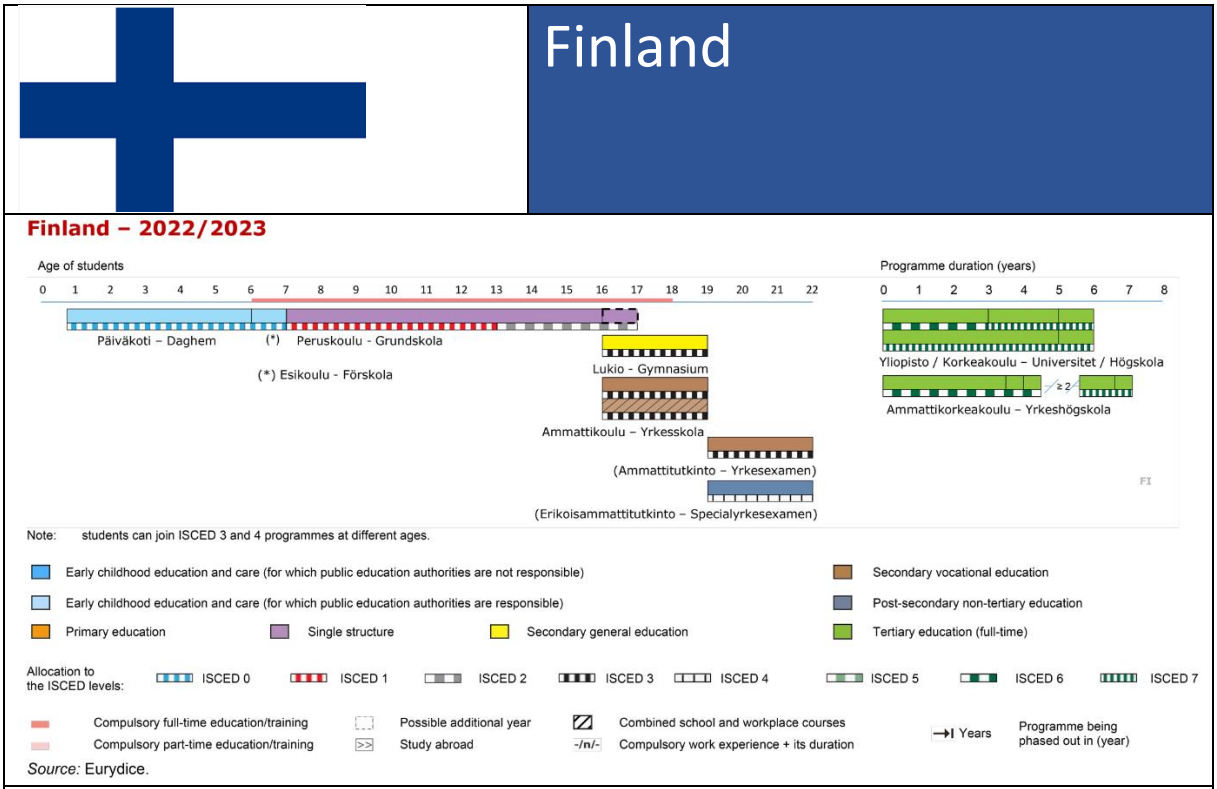
(a) training in the enterprise comprises at least two thirds of the curriculum;
(b) the remaining one third of the program (school part) may also comprise training at school; in some cases, schools have better equipment than companies;
(c) the apprenticeship contract between the school, learner and employee stipulates the rights and obligations of parties as well as the details of the learning process. the contract is usually initiated by schools but can also be proposed by companies and learners; it should be in accordance with the labor code but learners retain student status even if the employment contract is signed in addition to the apprenticeship contract; apprentices have the same social guarantees as learners in school-based VET;
(d) the total study duration is from three months to three years (currently, apprenticeships are not provided in upper secondary VET (ISCED 354)), equal to school-based

VET programs;
(e) employers recompense students for tasks performed to the amount agreed in the contract; it cannot be less than the national minimum wage;
(f) apprentices have to pass the same final examinations as in school-based VET;
(g) each apprentice is supported by two supervisors: one at school and one at the workplace.

The apprenticeship grant covers training of supervisors and other costs (salaries, training materials and maintenance (such as heating and electricity)). Within an apprentice contract, schools may transfer up to 50% of the grant to the training company to pay a salary to supervisors at the workplace. The most popular apprenticeship study fields (curriculum groups) are wholesale and retail sales, social work and counselling, motor vehicles, ships and aircraft, electricity and energy, and social worker.

4. Finland[7]

4.1 Overview



Equity in education

A key feature of the national education culture is to ensure equal opportunities for all. Individual support measures are in place to guarantee that every pupil and student can reach their full potential. Differences between schools are small and the quality of teaching is high all around the country. The education system does not have any dead-ends which would affect an individual's learning career.

In Finland, education is publicly funded. Only two per cent of pupils in compulsory education attend schools that have a private provider. Also these schools are publicly funded and they cannot have any tuition fees.

Education from pre-primary to higher education, is free. School meals and all learning materials are provided free and access in remote and sparsely populated areas is ensured through free school transport.

The education system is based on trust and responsibility

In Finland the provision of education is steered through regulations, information and funding. Local autonomy is high. Most of the funding comes from local budgets and the government transfers are not earmarked.

[7] Compiled by Dr. Sirpa Sandelin, Satakunta University of Applied Sciences, 2023

One of the regulations, the national core curriculum leaves room for local variations and therefore individual schools and teachers have a lot of freedom in designing their own curricula and instruction.

Also Finnish higher education institutions enjoy extensive autonomy. They are independent regarding their finances and administration. Institutions are autonomous regarding their teaching and research.

There is very little external control, such as school or textbook inspections. The first national examination takes place at the end of general upper secondary education. The most important quality assurance mechanism is the self-evaluation carried out by the education providers themselves. Nationally sample-based assessment are carried out according to an assessment plan. HE institutions are also expected to follow the quality of their operations and teaching.

Life-long learning in focus

Life-long learning is ensured by making it possible for leaners to take up studies at any stage of their lives. Education for adults is provided at all levels of education. Also informal and non-formal education is recognised. In vocational education, for example, competence-based qualifications offer a way to demonstrate prior learning.

Adult learning is very popular. Different institutions arrange a great variety of courses and programmes for adults at all levels of formal education, and the provision of liberal adult education is extensive. Adult education includes self-motivated education, staff training and labour market training. It may lead to qualifications or be related to general self-development.

Early childhood education and care (varhaiskasvatus)	Participation in early childhood education and care is a universal right for all children under school age, that is, aged 0-6 years. It is mainly organised in day-care institutions and so-called family day-care. There are moderate fees for families.
Pre-primary education (esiopetus)	Compulsory pre-primary education stats one year before basic education at the age of six. Municipalities have to provide pre-primary education of a minimum of 700 hours per year. Generally, this is organised so that the children have half a day of pre-primary education activities and the rest of the day is early childhood education and care. Pre-primary education is entirely free for the families.
ISCED 1-2 • single-structure primary and lower secondary education (perusopetus)	Comprehensive school education begins at the age of 7 and lasts for 9 years. It is provided in a single structure system. It includes grades 1-9. Education is free for

	pupils as well as learning materials, daily school meal, health and welfare services and transport from home to school if the way to school is long or dangerous.
ISCED 3 • upper secondary education (toisen asteen koulutus) • general upper secondary education (lukiokoulutus) • vocational upper secondary education (ammatillinen koulutus)	Upper secondary education is provided by general and vocational upper secondary institutions. The general age to participate in upper secondary studies is from 16 to 19 years. In vocational upper secondary education in particular many students are older.

ISCED 6-8
 	
• higher education (korkeakoulutus)
  ○ university (yliopisto)
  ○ university of applied sciences (ammattikorkeakoulu)
	Higher education is provided by universities and universities of applied sciences. The first are more academically oriented and the latter more professionally-oriented institutions. ISCED 8 level qualifications, such as doctorates can only be granted by universities

4.2 Initial vocational training

Vocational training in general

The Finnish National Framework for Qualifications and Other Competence Modules (FiNQF) classifies competences into eight levels. This national framework is based on the European Qualifications Framework for lifelong learning (EQF) and it responds to the International Standard Classification of Education (ISCED) levels 0 to 8. Vocational qualifications include initial vocational qualifications, further vocational qualifications and specialist vocational qualifications to levels 3, 4 or 5.[8]

The Ministry of Education and Culture grants licenses to provide vocational education and training. The license determines the educational task of the education provider and ensures that education providers meet the preconditions for providing high-quality qualifications and education. The license covers VET provided to both young people and adults. The license entitles the organization to provide the education required for completing vocational qualifications, to organize competence demonstrations, and to grant qualifications.

Vocational qualifications can be completed in school-based VET or as competence-based qualifications. VET is organized mainly in institutions (on-the-job learning included) or as apprenticeship training. In Finland dual model is mostly understood as a combination of VET and matriculation examination.

[8] See more at https://www.oph.fi/en/education-system, https://www.oph.fi/en/education-system/finnish-vocational-education-and-training, and at https://okm.fi/en/education-system.

Initial vocational qualifications give the basic skills required in the field. Further and specialist vocational qualifications enable people to develop their skills at different stages of their career. The scope of initial vocational qualifications is usually 180 ECVET points, that of further vocational qualifications is 120, 150 or 180 points, and that of specialist vocational qualifications is 160, 180 or 210 points. The most common ECVET points are highlighted in the previous sentence.

Basic, comprehensive education is required for initiative vocational education. For further and specialist qualification, requirements vary by each qualification (shown on page https://eperusteet.opintopolku.fi/#/en/selaus/ammatillinen).

Yes, The Finnish NQF describes the qualifications and curriculum laid down in the legislation governing the administrative branch of the Ministry of Education and Culture and in the legislation governing other administrative branches. In January 2023 the number of official qualifications offered was: Initial vocation qualification 42 qualification, further qualification 64 and specialist 52.

Ministry of Education and Culture, and Finnish National Agency for Education supervises the trainings. The Ministry of Education and Culture prepares VET legislation and steers and supervises the sector. The Ministry also grants the education providers permits to provide VET. VET is developed, delivered and assessed in close cooperation with the world of work.

The Finnish National Agency for Education helps develop quality assurance in vocational education and training (VET). Vocational training providers are responsible for the quality of the qualifications, training and other services they provide and for the continuous development of quality assurance. The National Agency for Education is also the National Reference Point (NRP) for quality assurance in VET in Finland[9].

The Finnish VET providers takes the examination. List of VET education providers is available on page https://eperusteet.opintopolku.fi/#/en/selaus/ammatillinen/koulutuksenjarjestajat.

The Parliament of Finland decides annual budget allocations to VET. National and local governments are responsible for financing VET as part of the state budget. Also, vocational education and training organized at workplaces are publicly funded.

The whole VET system is described at https://okm.fi/documents/1410845/4150027/Finnish+VET+in+a+Nutshell.pdf/9d43da93-7b69-d4b5-f939-93a541ae9980/Finnish+VET+in+a+Nutshell.pdf?t=1569997944000

The examinations and qualifications as well as contents of them are listed in laws. In addition to the vocational school examination, certain qualification is needed in many tasks. Requirements for these qualifications may contain specific experience after graduating from the vocational school and passing particularly defined qualification tests – and all these are regulated by law[10].

[9] See https://www.oph.fi/en/education-system/finnish-vocational-education-and-training/quality-assurance-national-reference-point-vet

[10] See https://www.oph.fi/en/education-system/finnish-vocational-education-and-training

Qualification requirements for vocational education are available in Finnish on site https://www.oph.fi/fi/koulutus-ja-tutkinnot/tutkintorakenne and https://eperusteet.opintopolku.fi/#/fi/selaus/ammatillinen. Some qualifications are also in English on site https://eperusteet.opintopolku.fi/#/en/selaus/ammatillinen.

For decades, Finland's educational policy has sought pathways that are open from basic education to higher education with no dead ends. Today, cooperation between secondary and tertiary VET is increasingly common. This can be seen as the Finnish way to implement dual examinations.

Vocational training integrated into Bachelor's degree programs

Initial vocational training cannot be carried out as an integrated part of a dual Bachelor's degree program.

Unfortunately, integration is not possible, because the legislation is binding and does not give any possibility to integrate VET into Bachelor's programs. However, VET education completed students carry on their studies at higher education institutions, e.g. at SAMK more than 40 % of the bachelor students in engineering have VET background.

4.3 Continuing vocational training

Continuing vocational education and training in general

There are legal regulations regarding the implementation of CVET. Legal framework dealing with education system is vast, https://okm.fi/ammatillisen-koulutuksen-lainsaadanto, and the organization, curricula, and entry qualifications for further and specialist vocation education are governed by laws. Especially the following law steers the VET training: Act on Vocational Education and Training (English translation) https://www.finlex.fi/en/laki/kaannokset/2017/20170531

State-recognised further education qualifications can be obtained. Further and specialist VET qualifications are described in the law as follows (https://www.finlex.fi/en/laki/kaannokset/2017/en20170531.pdf):

- "A further vocational qualification is for demonstrating vocational competence oriented according to the needs of working life, in more depth than in an initial vocational qualification or focusing on a narrower set of tasks."
- "A specialist vocational qualification is for demonstrating vocational competence oriented according to the needs of working life, in more depth than in a further vocational qualification in terms of having a command of the relevant occupation or of having multi-discipline skills."

The qualifications of completed further VET, and for completes specialist VET depend on the qualification titles and competence areas.

Ministry of Education and Culture, and Finnish National Agency for Education issues the regulations and examination regulations. The Finnish VET providers takes the examinations.

Public and private educational institution are allowed to provide CVET. Authorization to provide vocational qualifications and vocational education and training is stated in the legislation. Ministry of Education and Culture is the granting VET providers, and an authorization to provide education may be granted on application to local authorities, joint municipal authorities, registered corporations or foundations[11].

Qualification as Energy Service Manager

There are legal regulations on VET qualifications and on higher education. However, the VET level education does not give qualification to all the tasks Energy Service Manager is planned to do. Some VET qualifications give e.g. right to perform installation work. Higher education in Bachelor's and Master's level give ability to design energy systems and supervise projects.

In Finland we educate energy advisors, who share information to promote energy saving and improve energy efficiency. They work in energy companies, municipalities, organizations, associations, RDI projects, etc. The profession requires extensive knowledge of the energy sector, incl. renewable energy applications, service expertise, service counselling skills, and communication skills. An energy advisor or consultant must be widely familiar with matters in the energy sector, such as energy production, consumption, pricing, and energy saving methods, as well as different forms of energy (incl. renewable energy) and their environmental effects and legislation. Special skills requirements vary. The work can focus, for example, on advising households, municipalities, or companies, or focus on specific industries such as construction or transport.

The education level required for Energy advisor is:

- Bachelor of Engineering or Master of Engineering (university of applied sciences), study field energy technology
- Bachelor of Science or Master of Science in engineering, study field energy technology.
- other educational background, such as environmental engineering and environmental science. In such case further education may be required.

4.4 Dual Bachelor's degree programs

There are no dual study programmes in Finland. The strict education system and legislation do not support dual study programmes.

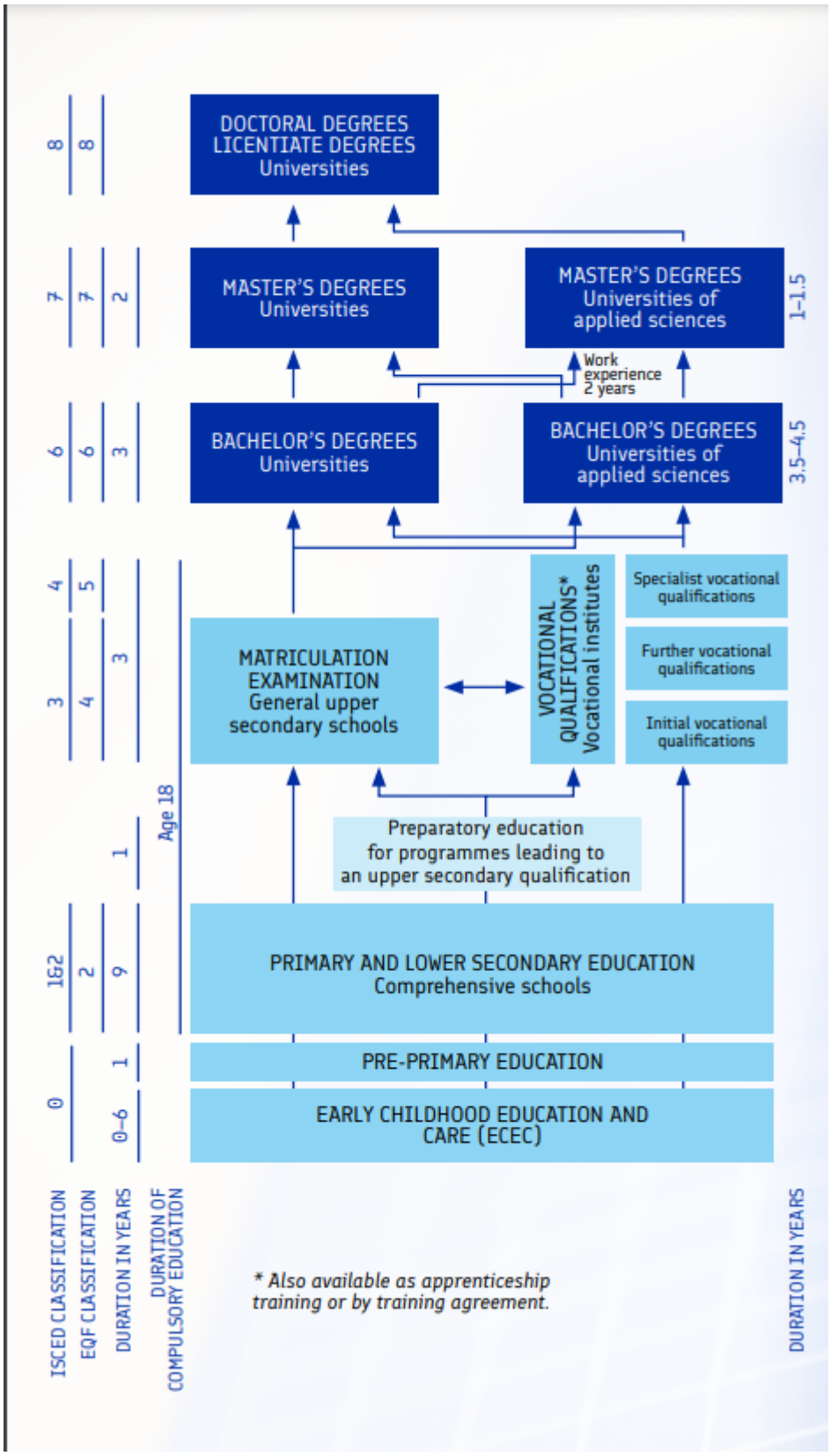
In Finland higher education is tightly linked into the surrounding working life. We use teachers and quest speckers from respective local and national companies, city organizations and organizations to present and discuss current topics and real-life projects. Companies and professional associations organize theme days and student recruitment events. Higher education institutes' RDI groups integrate companies, organizations, third sector, etc. into national and international projects. Projects are

[11] See more https://www.finlex.fi/en/laki/kaannokset/2017/en20170531.pdf

done in cross-disciplinary teams. Almost every bachelor or master thesis is done either in a company or for a company. Also, internships, i.e. practical training takes place in companies or RDI projects. For example, engineering students work in companies etc. during all summer times. These training periods are included in their study programme, so they also earn altogether 30 ECTS credits (from 240 ECTS) from the work. Students report training periods, sustainable development issues and their learning path during the training. In the Municipal and Construction Engineering Degree Bachelor programme one of the study paths is professional building production, where an addition of 30 ECTS credits related to compulsory study courses are integrated in the site work. In some (adult) degree programmes it is possible to gain almost half of the credits linked into a company.

Some other forms of collaboration are:

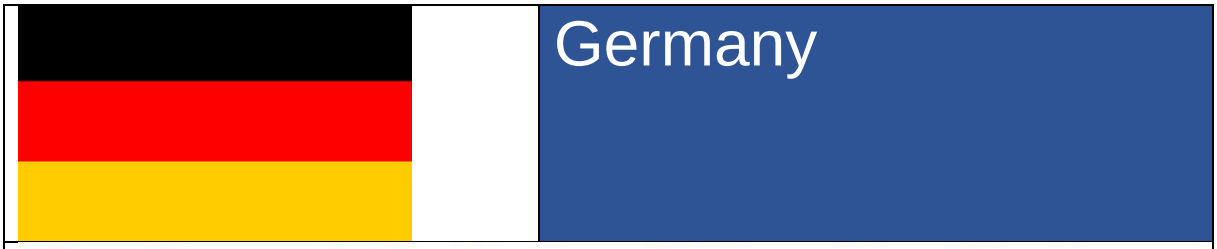
- Company, city and organizations have representatives in the degree programme advisory boards, which develop, among other things, curricula.
- Companies commission projects to students, i.e., thesis, carbon calculations, materials calculations, etc. Almost every bachelor or master thesis is done either in a company or for a company. Practical trainings are taking place at companies, organizations, etc.
- Teachers and students participate at professional fairs and exhibitions and prepare higher education institutes' own project stands.
- Companies etc. can utilize different higher education service points to seek employees.
- Several degree programme academies combine traditional and online learning into real-life projects commissioned by companies, organizations, etc.
- Higher education institutions organize hackathons, where student groups engage in rapid and collaborative engineering over a short time to solve a current change given by a company or companies.
- SAMK for example has a Senior Fellow programme for academic and business professionals.
- In some projects, SAMK fosters companies in entrepreneurship and finding new business opportunities e.g., emerging markets.
- SAMK representatives participate in the work of stakeholder groups both locally, nationally, and internationally.

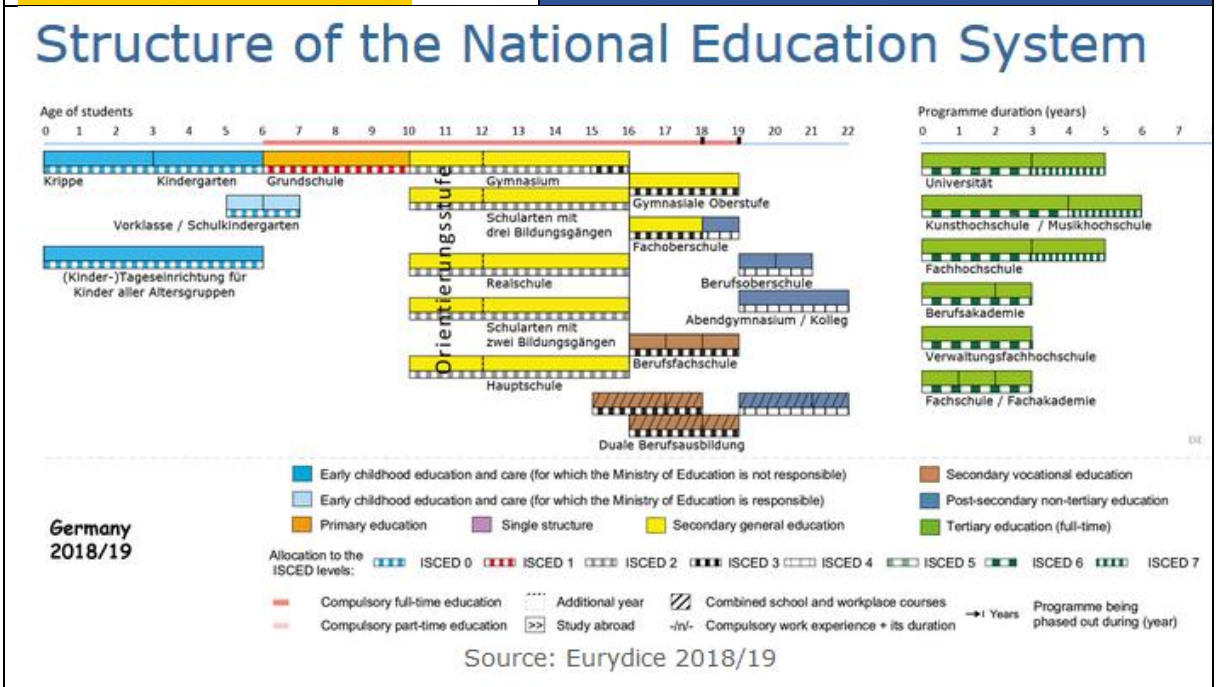


Finnish education system. Source: Finnish education in nutshell, Ministry of Education and Culture, 2022,

5. Germany

5.1 Overview





Source: Eurydice 2018/19

In the Federal Republic of Germany responsibility for the education system is divided between the Federation and the Länder. The scope of the Federal Government's responsibilities in the field of education is defined in the Basic Law (*Grundgesetz*). Unless the Basic Law awards legislative powers to the Federation, the Länder have the right to legislate. Within the education system, this applies to the school sector, the higher education sector, adult education and continuing education. Administration of the education system in these areas is almost exclusively a matter for the Länder.

Early childhood education and care is not part of the state-organised school system in Germany but almost exclusively assigned to the child and youth welfare sector.

Compulsory Education

As a rule, general compulsory schooling begins for all children in the Federal Republic of Germany in the year in which they reach the age of six and involves nine years of full-time schooling. Those young people who do not attend a full-time general education school or vocational school at upper secondary level once they have completed their period of compulsory general schooling must still attend part-time schooling (compulsory *Berufsschule* attendance – *Berufsschulpflicht*). This usually lasts three years.

Early Childhood Education and Care	Early childhood education is provided by institutions catering for children until the age of six at which they usually start school. Children of school age who have not yet attained a sufficient level of development to attend a school have a further option in some Länder, namely *Schulkindergärten* and *Vorklassen*. These institutions are either assigned to the early childhood or the primary sector according to the particular Land.
Primary Education	As a rule, in the year in which children reach the age of six, they are obliged to attend primary school. All pupils in Germany enter the *Grundschule* which in almost all Länder covers grades 1 to 4 (in Berlin and Brandenburg grades 1 to 6).
Secondary education	Following the primary school stage, secondary education in the Länder is characterised by division into the various educational paths with their respective leaving certificates and qualifications for which different school types are responsible. Once pupils have completed compulsory schooling they move into upper secondary education. The range of courses on offer includes full-time general education and vocational schools, as well as vocational training within the *duales System* (dual system). At school types offering one course of education all teaching is channelled to a specific qualification. These have traditionally been the *Hauptschule*, *Realschule* and *Gymnasium*. *Schularten mit mehreren Bildungsgängen* (schools offering more than one type of course of education) bring two or three courses of education under one umbrella. In most of the Länder they have meanwhile led to the abolition of the *Hauptschule* and *Realschule*. For pupils with *sonderpädagogischer Förderbedarf* (special educational needs), additionally various types of *sonderpädagogische Bildungseinrichtungen* (special schools), have been set up

	within the organisational framework of general and vocational education. Once pupils have completed compulsory schooling – generally when they reach the age of 15 – they move into upper secondary education. The type of school entered depends on the qualifications and entitlements obtained at the end of lower secondary education. The range of courses on offer includes full-time general education and vocational schools, as well as vocational education and training within the *duales System* (dual system).
Tertiary Education	The tertiary sector encompasses institutions of higher education (universities, *Fachhochschulen*, colleges of art and music) and other establishments that offer study courses qualifying for entry into a profession to students who have completed the upper secondary level and obtained a higher education entrance qualification. Additionally, there are a number of special higher education institutions which only admit certain groups, e.g. higher education institutions of the Federal Armed Forces and *Verwaltungsfachhochschulen*, and are not considered below. Those with a higher education entrance qualification may also choose to enter a *Berufsakademie* offered by some Länder as an alternative to higher education. At state or state recognised *Studienakademien* (study institutions) and in companies students receive academic but, at the same time, practical career training. The *Fachschulen* and the *Fachakademien* in Bayern are institutions of continuing vocational education that, as a rule, call for the completion of relevant vocational education and training in a *anerkannter Ausbildungsberuf* (recognised occupation requiring formal training) and relevant employment. The qualification level achieved here is comparable to the first level of the

	tertiary sector in accordance with the International Standard Classification of Education ISCED.
Adult Education and Lifelong Learning	The activities of the state in the field of continuing education are, for the most part, restricted to laying down principles and to issuing regulations relating to organisation and financing. Such principles and regulations are enshrined in the legislation of the Federal Government and the Länder. State regulations are aimed at establishing general conditions for the optimum development of the contribution of continuing education to lifelong learning. As part of lifelong learning, continuing education is assuming greater importance and is increasingly becoming a field of education. In response to the vast range of demands made on continuing education, a differentiated structure has been developed. Continuing education is offered by municipal institutions, in particular *Volkshochschulen*, as well as by private institutions, church institutions, the trade unions, the various chambers of industry and commerce, political parties and associations, companies and public authorities, family education centres, academies, *Fachschulen*, institutions of higher education and distance learning institutions. Radio and television companies also provide continuing education programmes. It is usually possible to acquire school-leaving qualifications later in life at evening classes (*Abendhauptschulen*, *Abendrealschulen*, *Abendgymnasien*) and in what is called *Kollegs*.

5.2 Initial vocational training

Vocational education and training (VET) in Germany is based on cooperation between the State, companies and social partners. The Federal Ministry of Education and Research (BMBF) is responsible for general VET policy issues and has a coordinating and steering role for all training occupations in cooperation with the respective

ministries. The BMBF also works closely with the Federal Institute for Vocational Education and Training (BIBB), which conducts research and advises the Federal Government and VET providers. The *Länder* (federal states) are responsible for school-based parts of VET and have VET committees with employer and employee representatives.

The apprenticeship programme (dual system) at upper secondary level (EQF level 4) is the main pillar of VET and also attracts upper secondary graduates: more than one in four apprentices had achieved a higher education entrance qualification before enrolling in apprenticeship. Programmes usually last three years and combine two learning venues, companies and vocational schools (work-based learning share approximately 75%). There are no basic access requirements for participating in the dual VET programme, but an apprenticeship contract must be concluded between learner and company. Enterprises bear the costs of company-based training and pay learners a wage. Those successfully completing training are qualified to be employed as skilled workers. Progression is possible through various VET programmes offered at post-secondary and tertiary level.

Parallel to the apprenticeships are school based VET programmes at upper secondary level (EQF level 2 to 4), which differ in terms of access, length, types and levels of qualification they lead to.

These include:

- programmes at full-time vocational schools (*Berufsfachschule*, duration one to three years depending on the type and level of qualification), leading, for example, to a qualification as nurse or childcare worker. The minimum entrance requirement is the lower secondary general school certificate (*Hauptschulabschluss*);
- general upper secondary programmes with a vocational component, which usually lead to the general higher education entrance qualification (*Berufliches Gymnasium/Fachgymnasium*, duration two to three years). Entrance requirement is the intermediate level certificate (*mittlerer Schulabschluss*).

Young people with social disadvantages, learning difficulties or handicap, or insufficient German language skills (migrants) have the possibility to qualify further through different transition programmes: the pre-vocational training (secondary school leaving certificate can be acquired) or basic vocational training year.

At post-secondary level, specialised programmes (*Berufsoberschulen* and *Fachoberschulen)* build on the intermediate school leaving certificate (*mittlerer Schulabschluss*) or initial VET and impart deeper occupational knowledge. They last one to three years and lead to entrance qualifications for universities of applied sciences or universities.

At tertiary level, vocationally qualified applicants can access advanced vocational training (AVT) leading to qualifications at EQF level 6, including master craftsperson, technician, and specialist (*Meister, Techniker, Fachwirt*). AVT confers the right to exercise a trade independently, to hire and train apprentices and to enrol in subject

related bachelor programmes. It also facilitates the acquisition of middle management qualifications in companies. AVT is a major factor contributing to the attractiveness of the VET pathway. Courses to prepare for these AVT qualifications are offered by chambers or schools (*Fachoberschulen*, master craftsperson schools). Access to the respective assessment generally requires several years of practice in the related occupation.

Practice-oriented learning is also an important element of higher education (EQF levels 6 to 7). Dual study programmes provide a blend of vocational and academic training, offered by universities of applied sciences bachelor programmes) and other higher education institutions (*Berufsakademien, duale Hochschule*). Some of them lead to double qualifications (vocational qualification and bachelor's or master's degree). Enterprises bear the costs of company-based training and pay learners a wage based on a contract.

5.3 Further vocational training

Continuing training is playing an increasingly important role in improving employability. It is characterised by a wide variety of training providers and a low degree of State regulation.

In Germany, official examination regulations can be issued with legal effect for the attainment of recognised CVET qualifications (EQF Level 5), which can come about in two ways:
a) The German chambers, as public legal bodies, have the competence to issue official examination regulations for CVET, which have legal validity for the respective chamber area.
b) The German Federal Ministry of Economics and Climate Protection can issue official examination regulations for CVET that have legal validity for the entire federal territory.

In Germany, there are a large number of official examination regulations for the attainment of recognised CVET qualifications, including, by statutory order of the Federal Ministry of Economics and Climate Protection, for the two CET programmes of the BA&VET project "Sustainable Management" and "Energy Service Manager".

In Germany, it is also possible to integrate continuing vocational education and training programmes into bachelor's degree programmes, so that two official educational qualifications "continuing vocational education and training" and "Bachelor's degree" are achieved. Such dual study programmes exist, for example, for the integrated training to become a master craftsman and a bachelor.

5.4 Dual Study Programs

Dual study programs are very popular in Germany due to their practical orientation. Most providers of the dual study courses are universities of applied sciences: 64% of the education providers fall into this category, 23% are academies, 7% universities

and dual universities of applied sciences make up a comparatively small proportion of dual study providers (6%).
Since 2004, the number of dual study programs has more than tripled from about 500 to 1,662 entries (2019) and the number of students undergoing initial training have increased from 40 982 in 2004 to 108 202 in 2019, according to the AusbildungPlus database. In 2019, the universities indicated that they would cooperate with ~51 000 practice partners (enterprises).
Analyzing the distribution of the dual study programs by the various faculties and courses of study it appears that the greatest choice is in the economics and engineering – 48% of the dual study programs offered by universities and academies and 59% of those offered by companies are in the Business Administration, Finance & Management Faculty. The figure for the Engineering & Technology Faculty is lower, it is offered by 39% of the education providers and 38% of the companies. The other faculties account for only a comparatively small portion of the study programs on offer.
The main identified trends of the overall development of dual courses of study in the initial training are the following:

- In the period from 2011 to 2019, the overall growth is observed. Thus, the dual study program is establishing itself as a study profile.
- The dual study programs are consolidating as an independent educational path; especially in the context of the new State Treaty on Accreditation of Studies, where clarifying definitional statements on dual study programs were made.
- The focus of the dual study programs is further shifting towards the practice-integrating study programs. The share of this format is 50,5% compared to 34,9% of the training-integrating format.
- The offered dual study programs continue to differentiate their format, i.e. the combination of practical work experience and higher education, as well as the time and organizational study models. The number of mixed forms of study, i.e. study programs that cannot be clearly assigned to the categories of training or practice-oriented, is now 14,6% (2016: 13,9%).
- Starting from the vocational education and training, new offers are being developed to coordinate vocational and university education, such as the approach of study-integrated training, which is being implemented at the Hamburg University of Cooperative Education and in North Rhine-Westphalia. Dual formats are also being used in study and career orientation, as the example of "Interlocking orientation offerings for vocational and academic training" (VerOnika) shows.

In the German Qualification Framework (DQR), the qualifications are divided into: Specialist skills; Knowledge; Abilities; Personal skills; Social skills and Autonomy. The DQR Level 6 that applies for the bachelor’s degree and the master’s certificate describes the skills required for planning, implementation and evaluation of comprehensive specialist tasks and for the independent control of process in subsection of

an academic field or in a vocational field. The complex structure of the requirements is subject to frequent changes.

Dual study programs are offered in Germany by

a) Berufsakademien Typ II: They offer practice-oriented courses of study, but only bachelor's courses of study, master's courses of study are not possible.

b) Universities of applied sciences. They offer Bachelor and Master programs.

c) Universities of applied sciences: they offer Bachelor's and master's programs as well as doctoral programs.

Dual study programs combine learning at the university with learning in the company. About half of the time is spent at the university and half at the company.

A minimum of 180 credit points is required for the bachelor's examination, of which 30 CP can be earned while learning in a company. The bachelor's degree is equivalent to the "normal" bachelor's degree without any restrictions; it also entitles the holder to study for a master's degree.

There are various forms of dual study programs, including combinations with vocational training and / or further education, for example:

- Learning in the university and in the company, but no combination with vocational training and / or further education, only bachelor's degree.
- Learning in the university and in the company, simultaneous completion of a vocational training in the first two years, qualification as journeyman / skilled worker and bachelor's degree.
- Learning in the university and in the company, simultaneous completion of a vocational master craftsman or technician training, bachelor's degree and vocational master craftsman / technician.

In case of a combination with vocational training and/or further education, the study is usually 1/2 to 1 year longer. Dual courses of studies can be carried out like "normal" courses of studies in semester form. So that the 50% time of learning in the enterprise does not lead to an extension of the entire study, the study enterprise runs the entire year (in particular also with private universities) and there are only 4 weeks' vacation in the year.

The change between studying at the university and in the company can be done alternatively:
a) in a block system (e.g. alternating 3 - 4-month long blocks in the university and in the company).
b) weekly change, e.g. every week from Monday to Wednesday or Thursday in the company and Thursday to Saturday in the university.

In the case of dual courses of study, student concludes a work or training contract with the company and a training contract with the university. The student has the status of a permanent employee or trainee in the company, receives remuneration from the company and is fully insured like any other employee.

In addition, dual courses of study are fully subject to the legal national rules and regulations of the Bologna process, as are all other courses of study.

Key points on dual bachelor's degree program

a) Prerequisites: A-levels or permission to study at a college/university

b) Total duration: 3 – maximal 4 years

c) Structure:

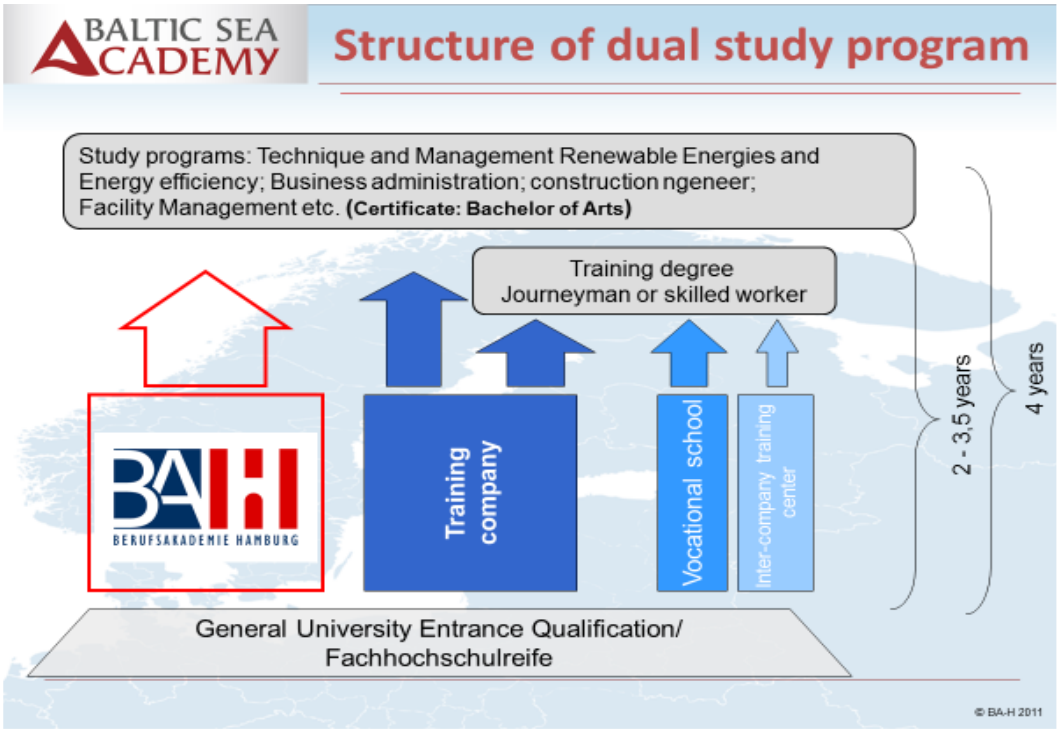
- 1st- and 2nd-year vocational training in the company and in the vocational school as well as studies at the university or college;
- After the 2nd year of final examination vocational training (journeyman or skilled worker);
- 3rd- and 4th-year university or college studies and learning or work in a company;
- After three or maximal 4 years Bachelor exam.

d) Learning venues of the Competence Center: College or University, vocational school and companies

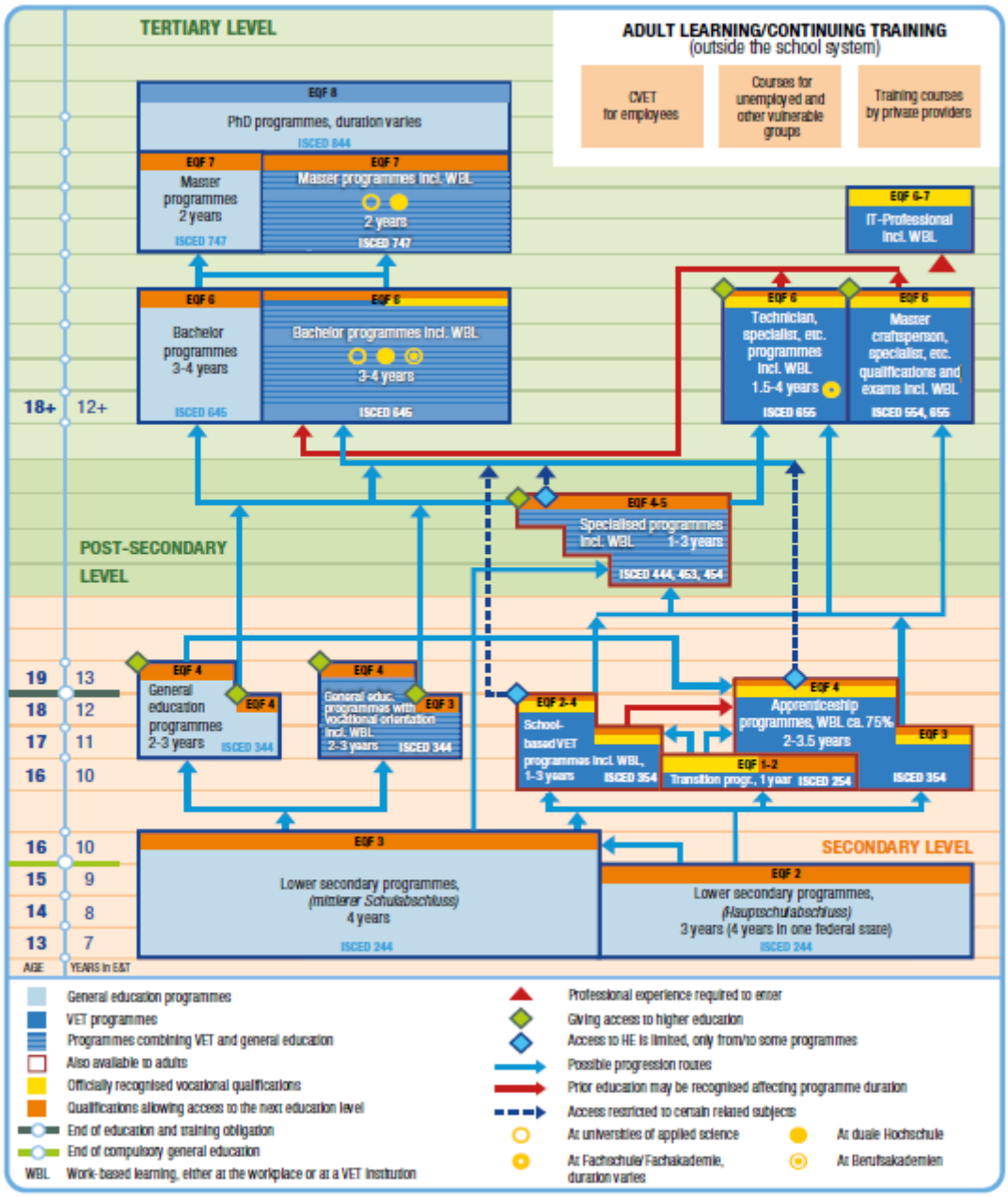
e) Distribution of training time: 50% in the company and 50% college or university

f) Alternative implementation:

- After completing general education with a degree "University Qualification" 3 - 4 years of vocational training and bachelor's degree in the Competence Center
- If a course of study only started after completion of the vocational training (first stage of the competence center), the bachelor's degree can be combined with



a professional master's or technician's training in higher education and companies, so that recognized bachelor's and professional master's or technician's degrees can be acquired in an integrated manner.



NB: ISCED-P 2011. This is a simplified chart, based on the unified approach used for the spotlights on VET in all EU-28 countries plus Iceland and Norway.

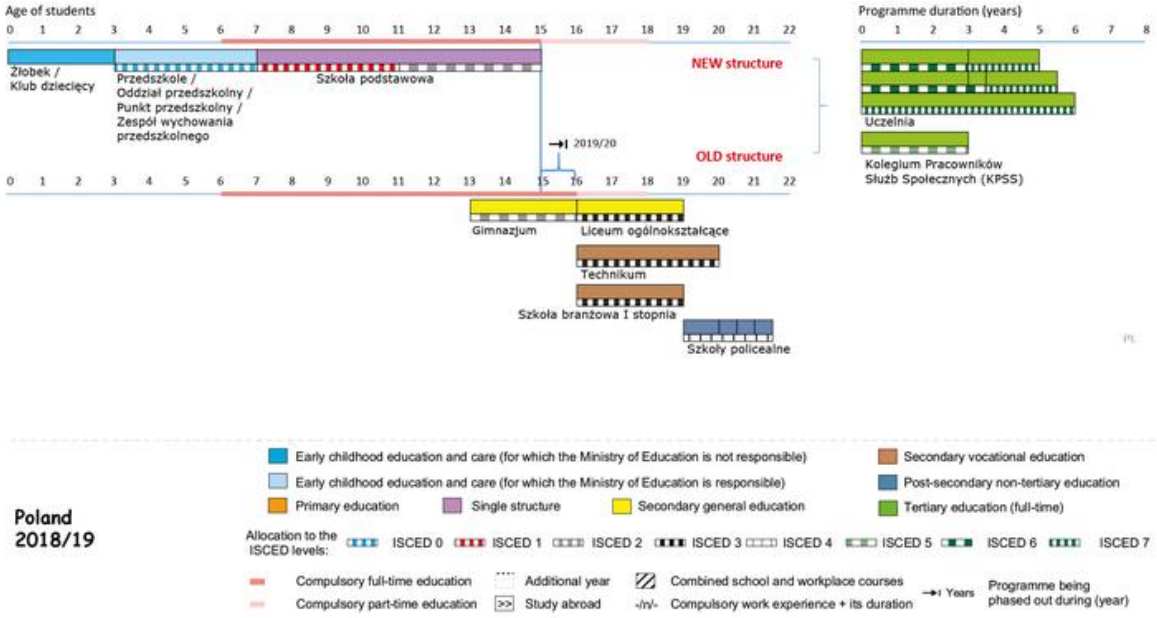
Source: Cedefop and ReferNet Germany.

6. Poland[12]

6.1 Overview

Poland

Structure of the National Education System



Source: Eurydice 2018/19

Structural reform in 2017

Educational reform in Poland is being implemented since the beginning of 2017. Its main goal is to offer students a solid background of general education required for further personal development and the needs of contemporary labour market.

The key elements of the reform are as follows:

- change in the school structure: introduction of a long, 8-year primary school, 4-year general and 5-year technical upper-secondary school
- an obligation for 6-year olds to attend one year of pre-primary education in order to acquire basic skills before they start school at 7; (this education, as it is the case for the school education, is financed from the general subvention from the State budget)
- provision of textbooks free of charge

[12] Compiled by Maria Muszyńska, Magdalena Olczyk, Marzena Grzesiak, 2023

- strengthening secondary education - both general and vocational -through the extension of secondary programmes by one year (see point 1)
- introduction of 3-year sectoral vocational learning (to obtain a professional qualification) with a possibility to continue education for further 2 years at the second stage of sectoral vocational school in order to upgrade qualifications and to prepare for the matriculation exam promotion of dual vocational training in cooperation with the business sector
- extending the participation of employers in co-financing of vocational education through the establishment of the Fund for Vocational Education Development.

The reform will be implemented between 1 September 2017 and the school year 2022/23. On the 1 September 2017 pupils graduating from year 6 of the primary school become pupils of grade 7. At the same time *gimnazja* (lower secondary schools) will be gradually phased out. In the school year 2018/19 *gimnazja* will cease to operate as the last cohort of pupils will graduate.

The new structure includes:

- 8-year primary school
- 4-year general upper secondary school
- 5-year technical upper secondary school
- Stage I 3-year sectoral vocational school
- 3-year special school preparing for employment
- Stage II 2-year sectoral vocational school
- Post-secondary school

The restructuring takes place on the basis of an act of 14 December 2016 “Law on School Education” and an act “Legislation introducing the Act – Law on School Education”.

Stage I sectoral vocational school has been introduced since September 2017, and introduction of Stage II sectoral vocational school is scheduled for the school year 2020/21.

In the following text we refer to two different structures of the school education system (old and new which was initiated in September 2017).

Compulsory education

In the old structure full-time compulsory education lasts for 10 years and comprises the last year of pre-school education, 6 years of primary school education and 3 years of lower secondary school education. Starting 2017 a new structure of school education is being implemented in which full-time compulsory education will last for 9 years (the last year of pre-school education and 8 years of primary school education).

In the Polish educational system full-time compulsory education and part-time compulsory education are defined:

- Full-time compulsory education (obligation to attend primary and lower secondary school- old structure, and primary school – new structure) applies to pupils aged 7-16 years (7-15 in the new structure)

- Part-time compulsory education (obligation to be in education) concerns pupils aged 16-18 (15-18 in the new structure) and it may take place either in school settings (a student attends upper secondary school) or in non-school settings (e.g. a student follows vocational training offered by employers).	
Early school education and care	Institutions for children aged 0-3 years: - crèche (*żłobek*) - kids club (*klub dziecięcy*). Attending a crèche is not obligatory, crèches are not a part of education system as they are supervised by the Ministry of Family, Labour and Social Policy. Institutions for children aged 3-6 years: - pre-school (*przedszkole*) - pre-school class in a primary school (*oddział przedszkolny w szkole podstawowej*) - pre-school unit (*zespół wychowania przedszkolnego*) - pre-school centre (*punkt przedszkolny*). Pre-schools are optional for 3, 4 and 5-year- old children and obligatory for 6-year-olds. Every 3-, 4- and 5-year old has an entitlement to a place in a pre-primary setting. As of the school year 2016/17 compulsory education in grade one of primary school starts at the age of 7. Parents of 6-year olds have a choice - they can enroll their children in the first grade of primary school or keep them in a pre-school institution.
Primary education	***Old structure*** 6-year primary school (*szkoła podstawowa*) was compulsory for all pupils who are usually aged 6/7-13. It included two stages: grades 1-3 (early school education) grades 4-6 where teaching is done by subject. A compulsory external exam at the end of grade 6 of primary education is cancelled due to the introduction of the new structure. ***New structure*** (single structure education ISCED 1+ISCED 2) 8-year primary school (single structure education) is compulsory for all pupils who are usually aged 6/7-15.

	It includes two stages: grades 1-3 (early school education) grades 4-8 where teaching is done by subject. At the end of grade 8 of primary school pupils will take a compulsory external exam and its results will influence admission to secondary schools.
Lower and upper secondary education	***Old structure*** Lower secondary school 3-year *gimnazjum* for students aged 13-16 is another stage of compulsory education. At the end of lower secondary school pupils take a compulsory external exam and its results influence admission to upper secondary schools. Starting in 2017 the 3-year *gimnazjum* (lower secondary school) is being phased out. Pupils graduating from the 6th grade of primary school become pupils of grade 7 in a new 8-year primary school. Upper secondary school Although this stage of education is not compulsory (or in fact compulsory part time up to the age of 18) a vast majority of students continues education in upper secondary schools. In the old structure there are three types of upper secondary schools: - 3-year general upper secondary school (*liceum ogólnokształcqce*) - 4-year technical upper secondary school (*technikum*) - 3-year basic vocational school (*zasadnicza szkoła zawodowa*) (already replaced by stage I 3-year sectoral vocational school (*szkoła branżowa I stopnia*). Pupils attend upper secondary schools at the age of 16-19 (16-20 years in case of the technical upper secondary school). ***New structure*** New structure is being introduced gradually starting in 2019/20 to be completed in 2023/24. The level of lower secondary school (ISCED 2) will be included in a single structure called an 8-year primary school.

	The new reformed structure of upper secondary education (ISCED 3) envisages the following types of schools: - 4-year general secondary school (*liceum ogólnokształcące*) - 5-year technical secondary school (*technikum*) - stage I 3-year sectoral vocational school (*szkoła branżowa I stopnia*) - stage II 2-year sectoral vocational school (*szkoła branżowa II stopnia*). Examinations Students of vocational schools - sectoral vocational schools and technical upper secondary schools - may take exams confirming vocational qualifications in a given occupation during the course of study or upon completion of school to receive a diploma confirming their vocational qualifications. Graduates of general upper secondary schools and technical upper secondary schools may take the external upper secondary school leaving examination (*egzamin maturalny*) to obtain the *Matura* certificate, which gives access to higher education.
Post-secondary education	Post-secondary education is considered to be a part of secondary education. Post-secondary schools (*szkoła policealna*) are intended for graduates of general upper secondary schools who wish to obtain a diploma confirming vocational qualifications. The schools offer courses lasting from 1 to 2.5 years. The students of post-secondary schools and students of sectoral vocational schools and technical upper secondary schools take vocational exams of the same type. Post-secondary schools will continue their functioning within the new structure of school education.
Higher education	There are two types of Higher Education Institutions: university-type (*uczelnia akademicka*) non-university-type (*uczelnia zawodowa*). They both offer first- and second-cycle programmes as well as long-cycle master's degree programmes while only university-type HEIs can offer third-cycle programmes (doctoral studies) and are authorized to award doctoral degrees.

	Studies are organized in the form of full-time (*studia stacjonarne*) or part-time (*studia niestacjonarne*) programmes. First-cycle programmes lead to two types of degrees: - *licencjat* (equivalent of bachelor's degree) - 3-4-year programmes - *inżynier* (equivalent of bachelor's degree) - 3.5-4-year programmes. Holders of the bachelor's degree can enter second-cycle programmes, which take 1.5-2 years depending on the area of study. Only several fields of study offer long-cycle master's degree programmes that last for 4-6 years. First-cycle, second-cycle and long-cycle master's programmes end with a diploma examination and students who have passed it are granted a relevant degree. The Master's degree (*magister* or its equivalent) entitles its holder to practice a given profession and provides access to third-cycle studies. They are organised in HEIs or research and development institutions other than HEIs and last for 3-4 years. Colleges of social work These institutions operate in the framework of school education system (not the higher education system) offering education at tertiary level (short-cycle higher education).
Adult education	Adult education is open to adults who wish to complete school education on primary and secondary level or acquire new vocational qualifications and skills for professional or personal reasons. It is organised, in school and non-school settings, by: - continuing education institutions - practical training institutions, - in-service training centres - HEIs as non-degree postgraduate programmes. Training is offered also to the unemployed and to certain categories of people searching for a job.

6.2 Initial vocational training

Vocational training in general

In Poland, initial vocational training is regulated by the Act on Vocational and Continuing Education, which was last updated in 2018 (Journal of Laws of 2018, item 312). This Act sets out the legal framework for vocational education and training in Poland, including the requirements for the organization, accreditation, and recognition of vocational training programs.

According to the Act, initial vocational training in Poland is typically provided at the upper secondary level in vocational schools, technical schools, and vocational high schools. These schools offer various vocational programs that are aligned with the needs of the labour market and provide students with practical skills and knowledge necessary for a particular occupation or industry. The Act specifies the qualifications, competencies, and learning outcomes that students should achieve during their initial vocational training.

In order to offer initial vocational training programs, schools in Poland must obtain accreditation from the relevant authorities, such as the Ministry of National Education or regional education authorities. The Act also sets out the requirements for the qualifications and professional development of vocational teachers, as well as the rights and responsibilities of students undergoing initial vocational training.

In Poland, initial vocational education and training (IVET) is organized through a combination of school-based and dual vocational training programs. IVET is typically offered at the upper secondary level in vocational schools, technical schools, and vocational high schools. These schools provide students with practical skills and knowledge necessary for a particular occupation or industry, and are accredited by the relevant authorities, such as the Ministry of National Education or regional education authorities.

School-based vocational training programs are typically classroom-based and focus on theoretical knowledge, practical skills, and general education subjects. Students attend classes at school where they receive instruction from qualified teachers and gain theoretical knowledge related to their chosen vocational field. These programs also usually include practical training opportunities within the school or at external training facilities, where students can apply their skills in a controlled environment.

Dual vocational training programs, on the other hand, combine classroom-based instruction with on-the-job training in a workplace setting. Dual vocational training is conducted in partnership with employers, who provide students with practical training opportunities and mentorship in real work environments. Students spend part of their time at school and part of their time at the workplace, where they acquire practical skills, gain work experience, and learn directly from industry professionals. Dual

vocational training is seen as a way to bridge the gap between education and the labor market, and helps students gain hands-on experience and develop skills that are directly relevant to the needs of the industry.

The length of IVET programs in Poland varies depending on the specific program and level of education. Generally, IVET programs at the upper secondary level can range from 2 to 4 years, with dual vocational training programs typically lasting longer due to the combination of classroom-based and on-the-job training components. IVET programs at the post-secondary level, such as in vocational schools or polytechnics, can range from 1 to 3 years, depending on the program and specialization.

Entry requirements for IVET programs in Poland vary depending on the specific program and level of education. Generally, students who have completed their basic education, which includes primary and lower secondary education, are eligible to enroll in IVET programs at the upper secondary level. However, some programs may have additional entry requirements, such as minimum grades or aptitude tests, depending on the field of study and program specialization.

In Poland, IVET programs lead to recognized state qualifications, which are awarded to students who successfully complete their vocational training programs and pass the final examinations. These qualifications are nationally recognized and are based on the national qualification’s framework, which specifies the knowledge, skills, and competencies that students are expected to acquire during their vocational training. State qualifications are important for students as they provide formal recognition of their skills and knowledge and are often required by employers in the labour market.

The supervision of IVET programs in Poland is carried out by the relevant authorities, such as the Ministry of National Education, regional education authorities, and vocational education institutions. These authorities are responsible for accrediting vocational schools, technical schools, and vocational high schools, as well as ensuring the quality and compliance of IVET programs with national standards and regulations. They also provide guidance, support, and monitoring to vocational schools and teachers to ensure that the vocational training programs are aligned with the needs of the labour market and meet the national quality requirements.

Examinations in IVET programs in Poland are typically conducted at the end of the training period and are administered by the relevant authorities or institutions. The examinations assess the knowledge, skills, and competencies that students have acquired during their vocational training, and may include both written and practical components. Successful completion of the examinations is a requirement for students to obtain the recognized state qualification.

The financing of IVET programs in Poland is generally supported by the state budget and is free of charge for students. However, students may be required to cover some costs related to textbooks, materials, and other expenses. Additionally, some IVET

programs may offer paid internships or apprenticeships, where students can earn a stipend or salary during their on-the-job training component.

Vocational training integrated into Bachelor's degree programs

Initial vocational training can be carried out in Poland as an integrated part of a dual Bachelor's degree program. In Poland, the dual education system, also known as "dual vocational education and training" (DVET), combines both theoretical education and practical vocational training, allowing students to gain practical skills and knowledge while pursuing their academic studies. Dual bachelor's degree programs in Poland typically involve a combination of classroom-based learning at a higher education institution and practical training at a company or vocational school.

There are legal regulations in Poland that govern dual vocational education and training programs, including those that integrate initial vocational training into bachelor's degree programs. The main legal framework for DVET in Poland is the Act on Vocational Education and Training of 22 December 2016, which sets out the rules and requirements for vocational education and training, including the dual system. The act outlines the qualifications and competencies that students must achieve during their vocational training, as well as the rights and obligations of employers, vocational schools, and higher education institutions involved in dual programs.

According to the Act on Vocational Education and Training, dual bachelor's degree programs in Poland must meet certain requirements to be legally recognized. The program must be based on a cooperation agreement between a higher education institution and an employer, and it must be approved by the relevant vocational education authority in Poland. The program should include both theoretical and practical components, with a minimum of 50% of the total program hours devoted to practical training. The practical training should be carried out in a workplace environment that provides real work experience and allows students to acquire practical skills and competencies related to their chosen field of study.

In addition to the Act on Vocational Education and Training, there are other legal regulations in Poland that govern specific aspects of dual vocational education and training, such as the Act on Higher Education, the Act on the National Qualifications System, and various regulations issued by the Ministry of Education and Science. These regulations provide further guidance and requirements for dual Bachelor's degree programs, including the qualifications and competencies that students must achieve, the qualifications of teachers and trainers involved in the programs, and the procedures for evaluating and accrediting dual programs.

Dual bachelor's degree programs with integrated initial vocational training are already being carried out in Poland. These programs are offered by higher education institutions in collaboration with employers, vocational schools, and other stakeholders. The programs are designed to provide students with a combination of theoretical

knowledge and practical skills, allowing them to gain hands-on experience and be well-prepared for the job market upon graduation.

One example of such dual bachelor's degree programs in Poland is in the field of engineering. Students may choose to pursue a dual program that combines their bachelor's degree studies with practical training in a company or vocational school related to their field of study, such as mechanical engineering, electrical engineering, or construction engineering. During the practical training component of the program, students work on real-world projects, gain practical skills, and learn about the specific requirements and challenges of their chosen field of study.

Another example of dual bachelor's degree programs in Poland is in the field of business and administration. Students may choose to pursue a dual program that combines their bachelor's degree studies in fields such as management, finance, or marketing with practical training in companies or vocational schools. The practical training component of the program may involve working in different departments of a company, participating in real business projects, and acquiring practical skills and competencies that are relevant to their chosen field of study.

These dual bachelor's degree programs with integrated initial vocational training are typically structured in a way that allows students to alternate between classroom-based learning and practical training periods. The theoretical component of the program is usually delivered by the higher education institution, while the practical training is carried out in collaboration with employers or vocational schools.

Arguments that may support the implementation of dual Bachelor's degree programs with integrated initial vocational training in Poland.

Enhancing Employability: Dual bachelor's degree programs with integrated vocational training can enhance the employability of graduates by providing them with practical skills and work experience. Graduates with both theoretical knowledge and practical skills are better equipped to enter the job market and meet the demands of employers. The practical training component of the program allows students to apply their theoretical knowledge in real-world settings, develop problem-solving skills, and gain hands-on experience, which can be highly valuable in the job market.

Bridging the Gap between Academia and Industry: Dual programs that combine theoretical education with practical vocational training can bridge the gap between academia and industry by fostering closer collaboration between higher education institutions and employers. This collaboration can help ensure that the curricula are aligned with the needs of the labour market and that graduates possess the skills and competencies that are relevant to the industry. Employers can also play an active role in shaping the curriculum, providing input on the practical training components, and offering mentorship and guidance to students, which can lead to a better match between the skills of graduates and the needs of the job market.

Addressing Skills Shortages: Dual bachelor's degree programs with integrated initial vocational training can help address skills shortages in certain industries or sectors. By providing students with specific vocational skills and competencies that are in demand in the job market, dual programs can contribute to closing the skills gap and meeting the needs of the labor market. This can be particularly beneficial in fields where there is a shortage of skilled workers, such as engineering, technology, and healthcare.

Increasing Student Motivation and Engagement: Dual programs that incorporate practical vocational training can increase student motivation and engagement by providing them with real-world experiences and a sense of purpose. Students who can see the direct application of their theoretical knowledge in practical settings are more likely to be engaged in their studies and motivated to succeed. The opportunity to work on real projects, interact with industry professionals, and apply their skills in a practical setting can make the learning experience more relevant and meaningful for students.

Diversifying Education Pathways: Dual bachelor's degree programs with integrated initial vocational training can provide an alternative pathway for students who may not be interested in pursuing traditional academic programs or who prefer a more hands-on approach to learning. Dual programs can attract a diverse range of students, including those who are interested in gaining practical skills and starting their careers early, as well as those who may have different learning styles or preferences. This can help diversify the education landscape and provide more opportunities for students with varied interests and aspirations.

Supporting Economic Development: Dual programs that are aligned with the needs of the labor market and focus on developing vocational skills can contribute to the economic development of a country or region. By producing graduates who possess relevant skills and competencies, dual programs can support the growth of industries and sectors that are critical to the economy. Additionally, close collaboration between higher education institutions and employers can foster innovation, research, and development, which can have a positive impact on the economic competitiveness of a country.

Despite the potential benefits, there are also some challenges and considerations that need to be addressed in the implementation of dual bachelor's degree programs with integrated initial vocational training in Poland. These may include ensuring the quality and consistency of vocational training across different employers, coordinating between higher education institutions and employers, and addressing potential concerns about the balance between theoretical and practical components of the programs.

In conclusion, the implementation of dual bachelor's degree programs with integrated initial vocational training in Poland can have several potential benefits, including

enhancing employability, bridging the gap between academia and industry, addressing skills shortages, increasing student

6.3 Further vocational training

Continuing vocational education and training in general

Continuing vocational training in Poland is regulated by the Act on Vocational and Continuing Education, mentioned earlier. This Act defines continuing vocational training as education and training activities undertaken by individuals who are already employed or self-employed, aimed at acquiring or upgrading their skills in response to the needs of the labour market or their own career development.

The Act sets out the legal framework for continuing vocational training, including the requirements for the accreditation, quality assurance, and financing of training programs. It also defines the rights and responsibilities of employers, employees, and training providers in relation to continuing vocational training.

In Poland, continuing vocational training can be provided by various entities, including employers, industry associations, vocational training institutes, and private training providers. The Act emphasizes the importance of lifelong learning and encourages employers to invest in the professional development of their employees. It also promotes the recognition of prior learning, whereby individuals can have their prior knowledge and skills recognized and incorporated into their continuing vocational training programs.

There are legal regulations governing Continuing Vocational Education and Training (CVET). The main legal acts that regulate CVET in Poland include the Act on the System of Qualifications (2016), the Act on Vocational Education and Training (2018), and the Act on the Educational System (2021). These regulations provide a framework for the organization, certification, and recognition of CVET in Poland.

CVET qualifications in Poland are classified into two main categories: technician and vocational master craftsman. These qualifications are recognized by the state and are issued by relevant bodies authorized by the Ministry of National Education or other competent institutions, depending on the specific field or industry.

The regulations and examination regulations for CVET qualifications are issued by the relevant sectoral committees, which are composed of representatives from employers' organizations, employees' organizations, and relevant professional associations. These committees are responsible for developing and updating the qualifications standards, curricula, and examination requirements for CVET qualifications.

Examinations for CVET qualifications are conducted by Examination Boards, which are appointed by the competent sectoral committees. These boards are responsible

for preparing and conducting examinations, assessing candidates' performance, and issuing certificates of qualification upon successful completion of the examinations.

Both public and private educational institutions are allowed to provide CVET in Poland, subject to accreditation and authorization by relevant bodies. Public educational institutions include vocational schools, technical schools, and higher education institutions, while private educational institutions include private vocational schools, training canters, and other educational providers.

Entry requirements for CVET courses may vary depending on the specific qualification and the provider. However, in general, candidates for CVET qualifications are required to have completed their formal education, typically at least at the level of lower secondary education or higher and have relevant work experience in the field. Some CVET qualifications may also have specific requirements related to age, health, or other relevant factors.

It's important to note that CVET in Poland is subject to quality assurance measures, including accreditation and monitoring by relevant bodies to ensure that the training programs and qualifications meet the required standards. Additionally, CVET qualifications obtained in Poland are recognized within the national qualifications framework and may also be recognized in other countries, depending on the specific qualification and the relevant international agreements or arrangements.

Qualification as Energy Service Manager

In Poland, the qualifications and requirements for an Energy Service Manager may be subject to legal regulations that could change over time Poland does not have a specific qualification or certification for Energy Service Managers. However, there may be relevant certifications or qualifications related to energy management or renewable energy that could be applicable in this field.

In Poland, qualifications related to energy management and renewable energy are typically issued by professional organizations, educational institutions, or government agencies. These organizations may provide training programs or courses that cover topics such as investigating energy saving potentials in buildings, planning energetic building refurbishments and the use of renewable energies, preparing investment and cost calculations, and profitability calculations.

The specific examination requirements and entry requirements for such qualifications may vary depending on the issuing organization. It is recommended to check with the relevant organization directly to obtain accurate and up-to-date information on the specific qualifications, examinations, and entry requirements for Energy Service Managers in Poland.

Additionally, in some cases, reports on energy-saving potentials in buildings and the use of renewable energies may be required for eligibility to receive public subsidies for energy-related projects. These requirements may also vary depending on the

specific subsidy program and its associated regulations. It is advisable to consult the relevant government agencies or subsidy programs for the latest information on their requirements in Poland.

6.4 Dual study programs

Higher vocational education in Poland is regulated by the Act on Higher Education Institutions, which was last updated in 2020 (Journal of Laws of 2020, item 85). This Act sets out the legal framework for higher education in Poland, including the organization, accreditation, and quality assurance of higher vocational education programs.

According to the Act, higher vocational education in Poland is provided by vocational schools, polytechnics, and higher education institutions, which are authorized to award qualifications such as diplomas, associate degrees, or bachelor's degrees. Higher vocational education programs are designed to provide students with advanced and specialized knowledge and skills in a particular field and prepare them for employment in higher-level positions or for further education.

The Act specifies the requirements for the accreditation and authorization of higher vocational education programs, as well as the qualifications and competencies of academic staff involved in teaching and research. It also sets out the rights and responsibilities of students enrolled in higher vocational education programs, including their entitlement to participate in the governance and decision-making processes of higher education institutions.

The development of dual studies in Poland began in 2018 with the introduction of the new Act on Higher Education (Act of 20 July 2018). The Act allows universities to conduct first- and second-cycle studies, as well as uniform master's studies or full-time or general academic studies. The act says that the university may also conduct dual studies, which are employees with the participation of the employer. Art. 62 of the said Act says precisely: The university may conduct dual studies, which are practical studies conducted under the cooperation the employer. The organization of studies is determined by a legal agreement in written form between the university and the company. In order to develop dual studies in Poland, in the Operational Program “Knowledge Education Development” 2018 the competition “Dual Studies”, for Polish Universities was announced. 69 projects with amount of 127 million PLN were co-financed.

Bachelor studies in Poland last 6 semesters, but if the study program includes the learning outcomes of engineering studies - at least 7 semesters. To finish Bachelor study, student must obtain 180 ETCS points, 50% at the university, 50% for work in a company. Universities are free to determine how many hours in each semester a student spends at the university and how many in the enterprise, but in total the principle of 50:50 distribution of ECTS points (company / university) must be maintained.

Dual bachelor's degree programs do exist in Poland. These programs are commonly referred to as "dual studies" or "studies with practice". They are offered by various universities and vocational schools in Poland in collaboration with companies, providing students with the opportunity to combine academic studies with practical work experience. In dual studies, students sign a contract with both the university and the cooperating company, which allows them to divide their time between classroom learning and on-the-job training.

In 2019, 43 Polish universities provided education in the dual system, combining theoretical preparation with practical vocational training. Some examples of universities in Poland that offer dual studies programs include Warsaw School of Economics, Poznan University of Technology, and Jagiellonian University. Additionally, many vocational schools in Poland offer dual studies programs in fields such as engineering, business, and IT.

Dual bachelor's degree programs in Poland are implemented through a partnership between higher education institutions and companies. The programs typically involve a combination of classroom learning and practical training, with students spending around 50% of their time at the university and the other 50% at the company.

The amount of practical training that students receive can vary depending on the program and the field of study. In some cases, students may receive vocational training during the first two years of the program before moving on to more specialized coursework. In other cases, students may work and study simultaneously throughout the entire program.

The number of credit points that can be earned for learning in the company also varies depending on the program. Generally, students can earn a significant number of credit points for practical training, which may be recognized as part of their degree program. However, the exact number of credit points that can be earned for practical training will depend on the specific program and the requirements of the higher education institution.

Overall, dual bachelor's degree programs in Poland have been well-received by both students and employers. These programs provide students with the opportunity to gain practical experience in their chosen field while also earning academic credentials. They also help to bridge the gap between higher education and the workforce, providing employers with a pool of skilled and knowledgeable graduates who are ready to contribute to their companies from day one.

It is possible to introduce dual study programs in Poland. However, there are several conditions that must be fulfilled in order to establish successful dual study programs.

Firstly, it is important to have a strong partnership between higher education institutions and companies, with both parties committed to providing high-quality education and practical training to students. This partnership should be based on clear and

well-defined goals, with regular communication and feedback to ensure that the program is meeting the needs of both students and employers.

Secondly, the program should be designed to meet the specific needs of the local job market, with a focus on industries and occupations that are in high demand. This can help to ensure that graduates are able to find employment in their chosen field after completing their studies.

In terms of legal regulations, there are several laws and regulations in Poland that govern the establishment and operation of dual study programs. For example, the Act on Higher Education and Science sets out the requirements for accreditation of study programs, while the Labor Code governs the rights and obligations of students and companies during the course of the program.

In my view, the introduction of dual study programs in Poland is highly desirable. These programs can help to address the skills gap between higher education and the workforce, providing students with practical experience and job-ready skills that are highly valued by employers. Additionally, dual study programs can help to improve the competitiveness of the Polish economy by producing graduates who are well-prepared to meet the needs of the job market.

In order to strengthen vocational training to enable effective development of students' vocational skills, the Law on Higher Education and Science of July 20, 2018, introduced the requirement that vocational higher education institutions offer only studies with a vocational profile. The study program in the field of study with a vocational profile provides for mandatory internships (at least 6 months in the first cycle of studies and uniform master's studies, at least 3 months in the second cycle). In order to help universities prepare for the implementation of the provisions on the extension of mandatory internships, the Apprenticeship Program at State Higher Vocational Schools will be implemented from 2016 within the framework of the Operational Program for the Development of Knowledge-Based Education. Thank you to the project, a six-month apprenticeship program has been developed, tested and introduced in study subjects with a practical profile. More than 7,000 students took part in the internship programme. The result of the project is the development of students' competences, increasing the university's flexibility in creating educational programs and tightening cooperation with employers. The project budget is PLN 135 million

There are various forms of linking higher education with practice in Poland, including internships in companies, writing bachelor's or project theses, and spending the last semester in a company. Internships in companies are commonly offered by universities in Poland, and students can choose to participate in them to gain practical experience and learn about the professional world.

Writing bachelor's or project theses is another way that students can link their education with practice. In Poland, it is common for students to write a bachelor's thesis in their final year of study, which involves conducting original research or analysing

existing literature on a topic of their choice. Many students choose to write their thesis on a topic related to their field of study, which allows them to gain practical experience and apply their theoretical knowledge to real-world problems.

Some universities in Poland also offer programs where students can spend their last semester in a company, which allows them to gain practical experience and apply their theoretical knowledge to real-world problems. The organization of these programs can vary depending on the university and the company, but typically students are required to complete a certain number of hours or weeks of work, and may be evaluated by their supervisors at the company.

The maximum amount of practical training and the maximum number of credit points that can be earned for learning in the company can vary depending on the university and the specific program. In general, universities in Poland typically require students to complete a certain number of credit points in order to graduate, and some of these credit points can be earned through practical training or internships. The maximum number of credit points that can be earned for practical training can vary depending on the university and the specific program.

Vocational education and training (VET) has three governance levels: national (ministries), regional (school superintendents, mainly in pedagogical supervision) and county (governing schools). The Ministry of National Education is in charge of VET policy at secondary level, supported by other ministries responsible for particular occupations. The Ministry of Science and Higher education is responsible for higher VET. Social partners advise policymakers on necessary changes in VET.

Since September 2017 the Polish education system has been undergoing substantial restructuring, which will be finalised in the 2022/23 school year. Key elements of the reform include restructuring the current six-year primary education into eight years, divided into two four-year programs (basic and lower secondary level); phasing out the lower secondary school (gimnazjum), and extending the general upper secondary school (four instead of three years) and the technical upper secondary school (five instead of four); and introducing a two-level ‘sectoral vocational school’.

VET is provided at upper secondary and postsecondary levels that are mainly school based. Upper secondary programmes combine general and vocational education. Learners can acquire vocational qualifications in the following:

- three-year sectoral programmes (szkoły branżowe I stopnia, ISCED 353). Graduates can enrol in general education programmes bridging VET and higher education. For graduates of these programmes, the reform foresees introduction of new two-year programmes that will give access to tertiary education from 2020/21;
- five-year upper secondary technical programmes (technika, ISCED 354). Graduates can also acquire an upper secondary school leaving certificate (matura) giving access to tertiary education;

- three-year special job training programmes (szkoły specjalne przysposabiające do pracy, ISCED 243) for learners with special education needs (SEN), leading to a certificate of job training;
- work preparation in classes, available for SEN learners already at lower secondary level in primary schools at age 15 and above (oddziały przysposabiające do pracy, ISCED 243).

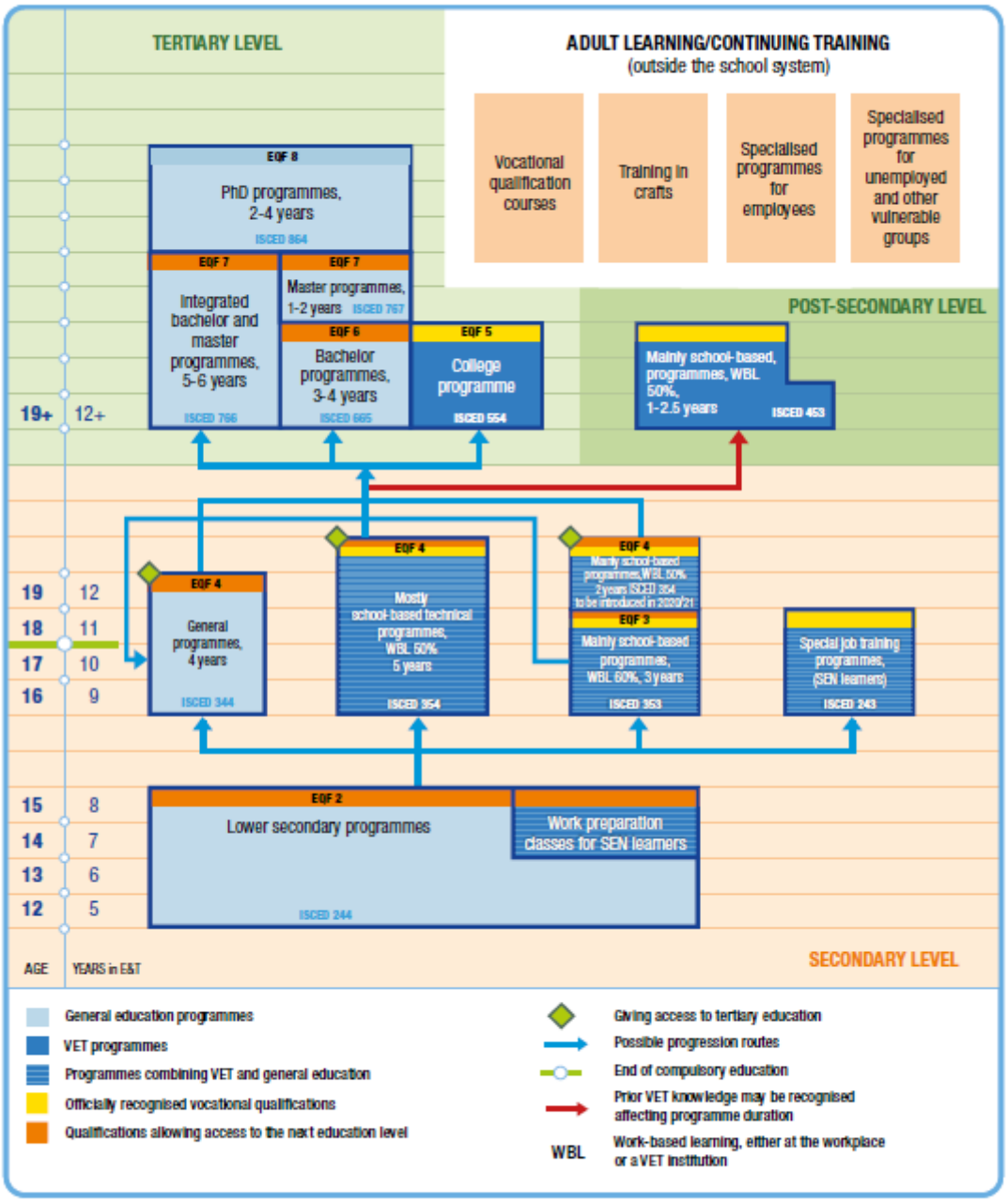
At post-secondary non-tertiary level, vocational qualifications can be acquired in one- to two-and a-half-year school-based programmes (szkoły policealne, ISCED 453). These programmes are strictly vocational and do not include general education. Basic or upper secondary education is required to enrol.

Work-based learning (WBL) is compulsory for all VET- oriented programmes. WBL takes place in school workshops, at continuing education centres, practical training centres, as contract-based practical training organised by an employer and as in-company training from 4 to 12 weeks, depending on the occupation. The last of these is compulsory for upper secondary technical and post-secondary VET programmes.

Adult learning and continuing VET is available in continuing education centres, practical training centres, further training and professional development centres, and initial VET schools. These offers:

- vocational qualification courses based on curricula for a qualification in a given occupation; learners can take the State vocational examination and attain a vocational qualification certificate;
- vocational skills courses based on the core VET curriculum, including learning outcomes for a qualification or common learning outcomes for all occupations;
- minimum 30-hour general skills courses based on the general education curriculum;
- courses for juvenile employees in the crafts sector.

Adults, including the unemployed, may also undertake vocational training through courses provided by training companies and other non-formal education institutions. Since 2016, qualifications based on the curricula of such courses can be included in the national qualifications' framework.



NB: ISCED-P 2011.

Source: Cedefop and ReferNet Poland.