DIGITAL RESPONSE TO UNEMPLOYMENT PROBLEMS IN WESTERN BALKANS

2024.

ANALYSIS AND MAP OF EXISTING NON-FORMAL EDUCATIONAL CURRICULUMS OF VOCATIONAL EDUCATION PROGRAMS IN PARTICIPATING COUNTRIES, WITH FOCUS ON FRESH AND MODERN OPPORTUNITIES FOR WORKFORCE OF TODAY

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Content

ABOUT PROJECT

Project name: Digital Response to Unemployment Problems in Western Balkans

Applicant: Vilnius Gediminas Technical University (Lithuania)

Partner organizations:
Pannonia Consulting d.o.o. (Croatia)
Outside Media and Knowledge (Germany)
Spin/Okret (Bosnia and Herzegovina)
Engineer Marko Radević Secondary School of Civil Engineering and Geodesy (Montenegro)
CRCA (Albania)

Affiliated entities:
VSI Innooctava (Lithuania)
Zenica Development Agency ZEDA (Bosnia and Herzegovina)
Buric Amar MOO (Bosnia and Herzegovina)
TVW GmbH (Germany)
NVO GLAS (Montenegro)
ICTSmedia (Albania)

Objectives:

1. Explore existing and develop 4-modular non-formal educational curriculum of vocational education in the field of employment based on intellectual services including STEM, soft skills, and diverse teleworking job market skills, to be further used and disseminated through day-to-day activities of partner VET providers in Lithuania, Germany, Croatia, Montenegro, Albania and Bosnia and Herzegovina; and their affiliated entities.
2. Develop an innovative digital hub platform to be used by unemployed and NEET young and adult VET users from Lithuania, Germany, Croatia, Montenegro, Albania and Bosnia and Herzegovina, containing e-learning educational programs based on STEM and providing links with possible future employers and employment opportunities.
3. Improve knowledge, skills and attitudes of at least 540 unemployed and NEET young and adult people from involved partner countries in the fields of entrepreneurship, self-employment, programming and virtual assistant work; through their active participation in local-level sessions and educational opportunities based on the 4 new nonformal educational curriculums, delivered in cooperation between VET providers, local institutions, higher education institutions and companies.
4. Strengthen and improve capacities of partner VET providers, and affiliated and associated partners for use of 4-modular non-formal educational curriculum of vocational education in the field of employment based on STEM approach in pedagogy; through six 7-days local level trainings for 60 VET trainers and educators, and study visit for 30 VET trainers and educators.
5. Strengthen and improve the capacities of VET providers in Albania, Bosnia and Herzegovina and Montenegro for the development and implementation of tailor-made programs and methods for the inclusion of persons with low and unfavorable formal qualification structures in the labor market; through the participation of their key staff

members and experts in developments and piloting of new curriculums, and development of online educational opportunities and digital hub platform, and through strengthening their connections and cooperation with institutions and companies from their and EU countries involved in the project.

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INTRODUCTION

This document presents a comprehensive analysis of non-formal programs of the vocational education and training (VET) landscape across five countries: Albania, Bosnia and Herzegovina, Croatia, and Germany. Each section provides a detailed overview of the existing non-formal educational curriculums, alongside an examination of formal and adult education frameworks within the vocational education programs of these nations.

Beginning with Albania, the document delves into the current state of non-formal vocational education curriculums, offering insights into the country's demography and the correlation between vocational education years and youth employment from 2019 to 2021. It highlights the priorities and focus of the Albanian state regarding professional education over the years, detailing both the formal and non-formal adult education systems, and conducts an exhaustive analysis and mapping of VET providers in the region.

The narrative then shifts to Bosnia and Herzegovina, exploring similar thematic areas such as the state of non-formal educational curriculums in vocational education, the landscape of formal education, and the nuances of adult and non-formal education. It also includes a meticulous list and examination of VET providers, supplemented by interviews with their representatives and an in-depth analysis of the vocational education curriculums, specifically in relation to employment.

Croatia's vocational education framework is scrutinized next, offering an overview of its non-formal educational curriculums and a detailed list of VET providers. This section also includes interviews with representatives of VET providers and an analysis of the existing curriculums, providing valuable insights into the Croatian non-formal vocational education system.

The document also explores the German model, renowned for its dual system of vocational training. It presents an overview of non-formal educational curriculums, lists existing VET providers, and describes the process of conducting interviews with various representatives. An analysis and mapping of the non-formal educational curriculums within the German vocational education programs are provided, alongside desk research to map the existing curriculums in the field of employment.

Lastly, the Montenegro section mirrors the structure of the previous country-specific analyses by providing an overview of the existing non-formal educational curriculums in vocational education, listing the VET providers, conducting interviews with representatives of these providers, and analyzing and mapping the non-formal educational curriculums of vocational education programs in Montenegro.

This document aims to serve as an essential resource for policymakers, educational institutions, and stakeholders involved in the development and implementation of non-formal vocational education and training programs. By offering a comparative analysis of the VET systems across these countries, it seeks to highlight best practices, challenges, and opportunities for enhancing non-formal vocational education to meet the evolving demands of the labor market.

ALBANIA

Overview of the existing non-formal educational curriculums of vocational education programs in Albania

Demography

Albania is a relatively small country (28,748 km2) in Southeastern Europe, located in the western part of the Balkan Peninsula. The country has a two-level administrative structure, which consists of 12 districts and 61 municipalities. According to 2019 data from INSTAT, the population in Albania is 2,862,427, of which 30% (834,151 people) live in its capital, Tirana. Other large cities are Fieri (308,014), Elbasan (290,666), Durrës (277,989), Korça (220,196), Shkodra (213,148) and Vlora (188,399).[1]

The number of births per year in the country is shrinking (with more than 82,000 newborns in 1990, about 40,000 in 2004 and less than 29,000 in 2018). This downward trend has been confirmed by each municipality. The number of Albanian immigrants has been falling since 2011, but the numbers are still worrying. In 2018, the number of immigrants was 38,703 people. Taking into consideration the internal migration of 23,673 people, net migration remains at negatively high levels (-15,030 people). The decrease in the number of births and the constant trend of migration of young Albanians to work abroad has led to a significant decrease (7%) in the number of the population during the last two decades (Census of 2001 by INSTAT: 3 069 275 inhabitants) and this has translated into lower enrollment figures in both nine-year and secondary education.

Enrollment in general education fell more drastically than that in VET, which shows a somewhat steady trend in the last decade and even a promising trend in the last five years (2013: 13,000 VET students). It is worth noting here that in the previous economic and institutional system of the country (until 1992), vocational education was widely preferred over general education.

Situation between years of vocational education and employment of young people in Albania (2019-2021)

According to the SI Newspaper, in Albania during the 2018-2019 school year,[2] 98,169 pupils and students graduated from official education, with a decrease of 5.5%, compared to the 2018 -19 school year. According to INSTAT, all educational levels had a decrease in the number of graduates. According to educational levels, the structure of graduations in formal education is almost the same during the last three school/academic years:

- **Pre-university education:** In the 2019-20 school year, 33,618 students graduated from 9-year education, of which 52.3% were boys and 47.7% were girls. In secondary education,

[1] https://www.instat.gov.al/
[2] https://gazetasi.al/regjistrimet-ne-arsimin-profesional-ne-renie-eksperti-ti-kthehet-ministrise-se-arsimit/

31,662 students graduated, marking a decrease of 6.9%, compared to the previous school year. At this educational level, 51.1% boys and 48.9% girls graduated. 4,862 students graduated in professional education, 27.7% more, compared to the 2018-19 school year. Vocational education graduates make up 15.4% of the total secondary education graduates. The gross graduation rate in secondary education was 81.5%.

- **Higher education:** In the 2019-20 academic year, 32,889 students graduated from higher education, marking a decrease of 5.7% compared to 2018-19. In all higher education programs, in this academic year, 21,481 students graduated, or 65.3% of the total number of students who graduated in higher education. Students who graduated from Bachelor's programs make up 53.5% of the total students who graduated, followed by Master's programs with 42.4%.

The field in which more students have graduated in all programs is "Business, administration and law" of 28.7% or over a quarter of the total number of graduates. The second most preferred field by men is "Engineering, production and construction" with 20.0% of graduates. Whereas, from all female graduates, the second favorite field is "Health and well-being" with 16.3% of graduates. Analyzed for each field separately, the fields in which more women have graduated compared to men are "Education" (82.9%), followed by "Arts and humanities" (77.8%) and "Social sciences, journalism and information" (77.1 %). The fields in which more men have graduated compared to women are "Services" (66.9) %, "Engineering, production and construction" (63.9 %), and "Information and communication technology" (59.1 %). [3]

In the 2020-2021 school year, over 19,000 students were enrolled in vocational education. Technical-professional training is offered in about 53 schools, of which 9 are private, mostly all located in urban areas. Most schools offer two to four profiles, while more than a quarter offer more than eight professional choices. Boys make up the majority of vocational education students. According to official data, most girls use vocational education as a path to higher education (over 79% of girls who graduate from vocational education enroll in university, compared to 39.2% of boys), while boys mainly enter the labor market after graduation.

According to the monitoring of the Monitor Newspaper in Albania, unemployment is more widespread among people with secondary professional education than among those with high school education. People who finish vocational education should be more integrated in the labor market due to higher profiling in some trades and that they easily fulfill the needs of the market, compared to people who finish general secondary education known as gymnasium.

Analyzing the developments in the labor market during 2020, INSTAT observed that 35 percent of the unemployed last year had a professional education, while only 10 percent of the unemployed had a high school education.

In 2023, EUROSTAT ranks Albania last in terms of youth education. 500 fewer students sat in the auditoriums this year compared to the previous year. This low number of them risks the closure of some branches in universities. The reasons are many, starting from emigration to the economic impossibility to pursue studies.[4]

According to an interview for Euronews Albania, sociologist Mrs. Entela Binjaku comments on this situation as follows: *"It is related to the loss of confidence in graduation, or the process of higher graduation. Second, young people are more likely to think of emigrating rather than going to school, getting an education and pursuing their passions. Thirdly, it is related to poverty, young*

[3] (ATSH 2021)

[4] https://euronews.al/te-rinjte-me-pak-te-arsimuar-sipas-eurostat-renditemi-ne-fund/

people do not have the opportunity to respond to the demands of an education, which in itself is an expensive process".

Young people with higher education, unemployed have had a slight decrease according to INSTAT figures in the second quarter of 2023. From 9.8% in the second quarter of the current year with an annual decrease of 0.7%. The lack of securing a job after completing studies is another factor that keeps young people away from university.

Regarding the above, for an interview with Euro news Albania, the employment expert Mr. Erion Muca says: *"In general, the level of qualification required is low to medium professional, which leads to a lack of interest in a higher education. The highest job openings are for those who do not have a higher education. They are satisfied with what they get at the end of the day and the ease of finding a job*".

The main priorities of the Ministry of Education and Sports continue to be the increase in the number of students attending higher education, from 24,123 students in 2023, to 28,000 students in 2026.

According to INSTAT and EUROSTAT data, young Albanians rank third from the bottom for the share of young people with higher education, after Romanian young people, with 23%, Italians with 28%. Experts raise the alarm that if these rates continue, very soon Albania will return to a country where it is easier to find work than qualified people. Under these conditions and trends, in 2024, the education sector as a whole will reach only 2.3% of GDP.

Professional education, focus and priorities of the Albanian state over the years

Vocational education itself is being oriented from production to service professions (economy, management, hospitality, tourism, and ICT).

According to Monitor Newspaper, in addition to secondary vocational schools, there are over 340 licensed private entities, 30 of which are Vocational Training Centers run by the state. These institutions provide certificates that are recognized, but there is still no monitoring system to assess the standards of training they offer and the quality of the knowledge they provide.

Neighboring countries, when they left the communist regimes, preserved the model of vocational education and did not destroy the factories. Albania, even 27 years after the shock therapy, continues to develop without an oriented economic model, while today vocational education is developing without any relation to the labor market.
The Monitor newspaper in its analysis points out that the Rama Government has put vocational education at the top of the education sector's priorities, but in reality, the distribution structure of schools is almost the same as before the 90s. The teaching staff is not qualified with the needs of the time, the premises and laboratories of teaching practices are completely outdated, while professional education is attended by the weakest students of the nine-year cycle. The average grade in the professional fields of electronics, ICT, informatics, mechanics is usually below, a negative indicator for the skills that the labor market requires.[5]

The Monitor points out that it will not be many years before the generation of workers educated before the 1990s retires, and then alarm bells will ring in all skill-driven sectors. Those educated

[5] https://www.monitor.al/te-papunet-35-ishin-me-arsim-profesional-10-me-gjimnaz/

after the 1990s are not able to respond to the needs of the time either in number or in quality. Today, education even in developed countries is facing great dilemmas, as technology is advancing at a faster pace than teaching curricula, and the classical model of theoretical classes will need adaptation.

The education system in Albania

School is one of the main social institutions. It has many functions, firstly it is an organized social institution with an identifiable structure and many functions aimed at preserving and expanding the social order. The school focuses on conveying knowledge according to certain fields and some of the obvious functions are: *Social control of the individual; Socialization of the individual; Transmission of culture; The formation of the individual, the development of society as a whole.*

Formal education

The support for the education system in Albania is enshrined in the Albanian Constitution, which, together with the main laws, legal acts and other important documents, considers the education sector as a priority. Law 69/2012 defines the right to education to every Albanian citizen, at all levels of education, without any discrimination, regardless of nationality, language, gender, religion, political beliefs, health, etc. MAS is the highest public administrative institution in the national education sector. This institution approves the basic provisions for educational institutions, school programs and curriculum and gives guidance for the new school year. MAS is also responsible for developing and monitoring the implementation of the pre -university education system of education.

The current vision for the education system has put the student and his needs at the center, so that the next generation can benefit through this service of skills, habits and values that will help him individually to face the challenges of a globalized market, but which will also contribute to human capital, marking a new social progress.

The successful characteristic of the educational system is decentralization, the autonomy of educational institutions. The latter has to do with the division of tasks, responsibilities, functions between different levels of government. Today, schools in Albania have some autonomy compared to many years ago, as the level of responsibility has increased, the capacities for planning and management have increased. In order to achieve this success, we must create conditions and opportunities for students:

- *Cultivate personal, national identity and cultural belonging.*
- *Acquire useful cultural and civic values.*
- *Develop responsibility towards oneself, others, society and the environment.*
- *Develop in intellectual, ethical, physical aspects, aesthetic and social.*
- *To be able to live and to work in different contexts.*
- *To be able to learn throughout life.*
- *To use new technologies.*

These advantages will be realized bearing in mind some important principles, which will guide the activity in the field of education, such as: *1. Qualitative and comprehensive education; 2. Unified education system; 3. Education for life; 4. Ensuring the quality of achievements according to standards; 5. Decentralization; 6. Accountability and transparency; 7. Community support.*

In the Republic of Albania, all citizens have the right to education regardless of age, gender or ethnicity. National minorities are guaranteed the right to education in their mother tongue until the end of the 9-year school. Suitable conditions are created for adult citizens to receive secondary and higher education even without leaving work. To help the students, the state organizes the system of scholarships and dormitories. Children start their education when they reach the age of 6, until the day they start school.

The Albanian education system is structured in a compulsory nine-year basic education model for all children, which starts at the age of 6 with elementary education from grade 1 to grade 6, followed by 3 years of primary education (also called lower secondary education) from grade 7 to grade 9 (high school diploma). Upper secondary education starts with the 10th grade and offers different directions towards the State Matura.

The direction of general education (gymnasium) which consists of 3 years (grades 10 - 12), the direction of oriented secondary education (artistic, sports, foreign language schools), which consists of 4 years to reach in the State Matura and a variety of Vocational Secondary Programs with a duration of four years leading to a vocational certificate and State Matura. Tertiary education leads to Bachelor's, Master's and Doctorate degrees. Additional post-secondary courses are envisaged, but are not yet an integrated part of the system.

More specifically, in an expanded and explained manner, the education system in Albania includes the following levels:

Pre-school education: attended by children aged 3-6 years. Through this educational level, the realization of the social, intellectual and physical development of each individual is aimed, as well as preparation for primary education. Children aged five are given the opportunity to attend the preparatory class. Attending this class even at basic education schools aims at integration into compulsory education.

Primary education and lower secondary education (9-year-old): includes primary education and lower secondary education; it is mandatory by law and lasts 9 years. Primary education consists of six grades, from first grade to sixth grade. Lower secondary education consists of three grades, from grade seven to grade nine. Children who reach the age of 6 by the day school starts are enrolled in the first grade.

Upper secondary education (gymnasium and vocational training high schools): In the tenth grade of full-time education, students no older than 18 years of age are accepted. A student up to the age of 21 is allowed to follow a 3-year upper secondary education, while up to the age of 22, a 4-year upper secondary education. A student who has reached the age of 21 in the 3 -year upper secondary education or 22 in the 4-year upper secondary education and has not completed the upper secondary education, is allowed to continue the class he is attending until the end of that school year. The types of upper secondary education are gymnasium, vocational secondary education and oriented secondary education ("Schools of oriented education" are artistic schools, sports schools, schools for foreign languages and schools for other fields of education learning).

Tertiary education (higher education): Tertiary education is an academic degree. Higher education, third-level education, and tertiary education are the optional final stages of formal education. You represent levels 6, 7 and 8 of the 2011 version of the Standard Education Classification International Structure.

Adult education and non-formal education

The Albanian VET system consists of two important pillars: initial VET and vocational training / continuing VET. Initial VET programs in public VET schools have a duration of four years.

Most training programs follow the 2+1+1 structure which consists of a two-year basic professional training, one year of specialization and one year of consolidation phase. After completing the final exams, students receive either a certificate as a technician / middle manager that corresponds to level 4 of the KSHK, as well as the Vocational State Matura Diploma which enables the transition to higher education. In addition to these certifications, students receive a Professional Certificate "Semi-skilled worker" (corresponding to the 2nd level of the KSHK) after completion and testing from the basic vocational education (2nd year) and a "certificate as a skilled worker"; (KSHK level 3) after successful completion of the specialization phase (3rd year). These certificates are a prerequisite for continuing to the next level of training, but also enable a direct transition to the labor market.

Some of the VET programs (mainly business administration, ICT and forestry) apply the 2+2 structure. As with the 2+1+1 structure, they start with two years of basic training to equip students with the basic professional skills in their field of occupation (leading to the 2nd level KSHK certificate "Semi-skilled worker"). This is followed by a two-year specialization phase which leads to the technical/middle management certificate (KSHK level 4) and, moreover, upon successful completion of the State Vocational Matura, students are awarded the State Vocational Matura Diploma.

The third option is the 4-year structure, which is only available in three professional areas: surveying, veterinary and aged care services and in some ICT programs ("Hermann-Gmeiner" School). While in the other 2 types of programs, students must undergo examinations according to the level after the 2nd and 3rd year (2+1+1 structure) of training, this type of program only foresees the final tests after the end of the cycle four years of training. The types of final exams and the related certifications are the same as in the structured 2+1+1 and 2+2 programs: the professional exam that ends with the awarding of the VET certificate as a technician / middle manager (KSHK level 4) and the matriculation exam leading to the Vocational State Matriculation Diploma.

Continuing vocational training (CVT) is by far less structured than initial VET. It consists of short-term training courses (3 to 9 months duration) offered by public Vocational Training Centers (VTCs) or private training entities. The basic criterion for entering vocational training is to have completed basic education (9 years of compulsory general education). Vocational training is offered as initial preparation for a profession or retraining (trainees are mainly referred to the QFPs by the National Employment Service - NKS).

Analysis and mapping of existing VET providers in Albania

The governance of AFP, the responsibility of key actors is defined in the law on education and professional training (15/2017) and its by-laws. Under the legal framework, the governance of VET is primarily in the hands of the government, national agencies and public VET providers. The ministry responsible for VET is the Ministry of Finance and Economy (MFE). It is responsible for drafting national policies, developing the legal framework and overseeing its implementation. In addition, the MFE is responsible for approving national VET qualifications, opening and closing VET providers as well as providing infrastructure and human resources for VET providers. The Ministry

closely cooperates with other institutions of the central level such as the Ministry of Education, Sports and Youth (MASR) and with its subordinate institutions (Agency for the Quality Assurance of Pre-University Education and the Center for Educational Services) on matters of VET- such as the recruitment and continuous professional development of teachers of general subjects or the organization of matura examinations for students of secondary vocational education. Under the Ministry of Finance and Economy are two national agencies that play a key role in the development, management, monitoring and quality assurance of VET.

The first agency is AKAFPK – the National Agency for Education, Vocational Training and Qualifications which was established in 2006. Its mission is to create a unified national system of professional qualifications based on the Albanian Qualifications Framework (KSHK),43 which supports the coordination of training programs with the needs of the labor market. In this regard, AKAFPK is responsible for the development and revision of the Classification of the National List of Professions (based on ISCO-08), professional standards, assessment standards and national framework curricula for levels 2-5 of the KSHK, accreditation of VET providers and organizing continuous professional development measures for VET teachers and instructors. AKAFPK also provides the Technical Secretariat for future Sectoral Skills Committees.

The second agency is the National Employment and Skills Agency (AKPA), which is the former National Employment Service (NSS). It has been given a new / expanded responsibility with the new law on VET (15/2017), which consists of supporting the management of all public VET providers (VET schools and VET- e) in order to improve their offer through regular monitoring and management based on results. This includes the administration of VET certificates and the tracking of VET graduates. The former NES has already made a contribution to the VET system through the management of 10 public Vocational Training Centers (VTCs), which offer professional training and other short-term training. Also, since 2010, NES has been responsible for conducting the Skills Needs Analysis once every two years.

Training takes place mainly at public VET providers (VET schools and VET), for which the new law on VET provides for a higher degree of autonomy in terms of offering programs, cooperation with companies and income generating activities. Meso-level institutions, which represent the private sector and social partners (eg chambers, business associations and trade unions), by law do not have a defined role in the Albanian VET system. Their input is mainly voluntary and advisory, and is provided for in a number of committees and boards such as the National VET Council, Sectoral Skills Committees and VET Provider Steering Boards.

Subject matter experts from the business community are expected to provide advice on sector-specific issues, propose/revise VET qualifications, develop and validate professional standards, support work-based learning and participate in competency assessment.

Financing of Public Vocational Education and Training is regulated by the law on VET no. 15/2017, chapter VI, article 30, 31 and 32. It foresees four sources of funding: a) State budget b) Income generated by public VET providers themselves c) Donor contributions d) Sponsorship.

Overview of VET providers

Vocational education and training in Albania are provided by:

• 35 high VET schools, which offer initial VET (VET) at three levels corresponding to levels 2, 3 and 4 of the Albanian Qualification Framework (QQF).
• 10 Public Vocational Training Centers (VTCs), which offer unified programs of vocational training and other short-term training (AFPV) for adults. The prerequisite for enrolling in a vocational training course is to have completed basic education (school-leaving diploma, aged 16 and over).
• 9 private vocational schools, which offer initial secondary VET, thus providing access in the labor market and in higher education.
• 112 private training centers, which mainly offer short-term vocational training for adults.

The new Law on VET (15/2017) provides for the establishment of Multi-Functional Centers (MCUs) to optimize the VET offer through the merger of two separate public VET systems that offer initial VET and continuing VET for youth and adults under one umbrella. By the end of 2020, a total of nine HCs were planned, of which only one is functional (Kamza HC) until the moment of drafting this report.

Public high schools of the AFP:

Of the estimated 300 vocational schools at the time of the transition, only 35 have survived to this day. The geographical distribution of schools in the territory of the country is not homogeneous, with a high concentration in central Albania: 13 out of 35 schools are located in the Tirana-Elbasan-Durrës corridor (figures from: MFE). Traditionally, vocational education has been under the responsibility of the Ministry of Education until 2014, when VET schools were transferred to the Ministry of Social Welfare and Youth (MMSR) and later (2017) to the Ministry of Finance and Economy (MFE). In 2015, MMSR undertook a series of measures to optimize the network of public VET schools. One of these measures was to conduct a baseline study of public VET providers in Albania (FET/GIZ 2014), which was a criteria-based assessment, which led to the ranking of VET providers according to performance (high/medium/low/poor performance) and came up with a list of recommendations for organizational and regional restructuring of the provider overview. Following the findings of this study, the ministry started reorganizing, merging and closing schools with poor performance and very low numbers of students in selected regions (Çorovodë, Librazhd, Korçë and Shkodër).

At the same time, the ministry took the initiative to open innovative VET schools, such as the "Hermann Gmeiner" ICT school in Tirana, which is based on a twinning concept with a partner school in Austria. In addition to the institutional reorganization, the number of broader qualification fields offered in the programs of VET providers, was reduced from 44 in the school year 2013-2014, to 23 in the school year 2018-2019. The number of profiles (narrower specializations/qualifications under broader fields) amounts to 87 profiles, with minor changes from one year to another. For the 2018-2019 academic year, 19,296 students were enrolled in upper secondary vocational education. Female enrollment at 17% remains somewhat low in upper secondary VET. For further details on the VET offer and VET registration, refer to the appendix to this report.

With the shift of responsibilities for VET from MMSR to MFE in 2017, optimizing the offer of VET providers was brought back as a priority on the agenda and with this the issue of regional scaling of the Multi-Functional Center (MCU) model, which will offer initial and continuing training under one umbrella. Experiences with the only pilot center of its kind, Kamza CHC (supported by GIZ and KfW) are currently under evaluation to explore its potential for a sectoral and/or regional scale-up.

Public Vocational Training Centers (VTCs):

The 10 public PES which are currently under the supervision of the National Employment Service (NSS), are located in 8 regions (Tirana, Shkodër, Elbasan, Korçë, Durrës, Vlorë, Fier and Gjirokastër). They were opened between 1993 and 2006 under the responsibility of the Ministry of Labour to provide vocational skills training to unemployed people or those seeking retraining to quickly enter the labor market. The offer of vocational training programs in VET has been scattered and disorganized in terms of structure, content and diversity as the government's reform interventions have focused mainly on improving VET secondary schools. Only in 2018, the Ministry of Finance and Economy (MFE) approved an instruction on the formats and duration of training courses, unified at the country level.

The programs of these courses (national framework curricula) are drawn up by AKAFPK and approved by the minister responsible for VET (MFE). CFPs can also provide short-term training, based on requests from various local stakeholders. For these courses they do not need an official approval from a national body. In 2018, 14,794 people were registered in the 10 public CFPs. The QFP enrollment figures can be found in the appendix of this report. Most of the training courses are short-term technical courses with a duration of 3 to 6 months. In 2018, an additional social skills training component for unemployed jobseekers called "Start SMART" was integrated into the QFP program offer (for more information refer to the collection of good practices in the appendix of this report).

Private VET schools:

The offer of training in private VET schools is very limited, mainly concentrated in Tirana (5 out of 9 providers) and incalculable in terms of student enrollment. The total number of enrollments in the 2019-2020 school year was 992 students, which results in an average total enrollment of 110 students per school, respectively an average number of graduations of 27 students per year per school. There are only three private VET schools that have a significant enrollment and a public reputation. These are "Harry Fultz" in Tirana, which offers training in electronics, auto-mechanics and business, "St. Joseph the Worker" in Lezhë, which offers various technical courses (mechanics, electronics and hydraulics) and ICT, the "Peter Mahringer" school in Shkodër, a partner school of the public vocational school "Hermann Gmeiner" in ICT in Tirana, which is offering ICT courses based on a cooperation agreement with a partner school in Austria.

According to the reports of the last two years, the interest of young people in AP (Professional Education) has increased more in the area of Lezha and Shkodra.

Private training providers:

Private training providers play a role in providing opportunities for lifelong learning (up-skilling, retraining). According to the NES, there are 112 licensed private providers in Albania who trained 5,928 adults in 2018 in short-term vocational training such as hairdressing, construction/maintenance, kitchen, accounting, administration, ICT and foreign languages.

Conducting interviews with representatives of VET providers

In the framework of the preparation of this report, the experts of CRCA/ECPAT Albania have contacted representatives of the following two institutions which are competent for designing the

curriculum as well as measuring the quality of professional training in Albania. Respectively, these two institutions are:

• **National Agency for Education, Vocational Training, Qualifications and Curricula.** Next to this agency, the experts of CRCA/ECPAT Albania have contacted the head of this institution, Mrs. Ejvis Gishti.

• **Agency for Quality Assurance of Pre-University Education** (Directorate of Curriculum and Qualification) Next to this agency, the experts of CRCA/ECPAT Albania have contacted the representative of this institution Mr. Gerti Janaqi.

As above, the experts of CRCA/ECPAT Albania are waiting for some additional information that both representatives have asked for understanding in order to send with the purpose of conducting a full analysis after the discussion about the standard questions of the questionnaire.

Meanwhile, in support of these two institutions. The experts of CRCA/ECPAT Albania have also contacted the executive director of ICTSlab, Mr. Kushtrim Shala, who shared information about the professional training programs that ICTSlab currently offers in Albania.

Mr. Shala said that ICTSlab currently offers two professional training courses such as: Programming training course, as well as an acceleration program for businesses (start-up), including the preparation of the participants of this course for the investment phase.

During the interview, Mr. Shala gave a profile and description of the following courses:

- *The first course started in 2018, while the second course will be accelerated in 2020.*
- *In the first course there are 60 participants, while in the second course there are 12 participants, with a total of 72 participants.*
- *The course of the first lasts 3 months, while the second course lasts 6 months.*
- *In the first course there are 6 female instructors, while in the second course there are 20 mentors.*
- *The practical theory ratio in both courses is 80% practical and almost 20% theory. At this point, it is worth noting that the courses are almost entirely focused on practice through informal training.*
- *Some of the skills acquired from these courses are pure technical skills (how to build a website, application, etc.), a combination of presentation skills, negotiation skills, the ability to evaluate (to prepare a business package)*
- *Participants in both courses /training programs do not receive any specific title but are only certified after three months in both training programs.*
- *The programs of both trainings are not certified by the Ministry of Education, but by AKPA (National Employment and Skills Agency)*
- *For each module, topics are developed that correspond to the curriculum of the professional course.*
- *As part of the development of topics, guidelines and quality assurance are carried out.*
- *As the director of ICTSlab, Mr. Throughout the whole time, Shala updates the topics related to the curriculum during the implementation of trainings in ICTSlab, which functions as a professional training delivery center.*
- *The curriculum is built according to the capacities and quality of the participants in both training courses/programs.*

- *In case there is a high number of applications in ICTSlab, the center acts by creating similar groups related to the level of capacity and quality of the participants.*

List of vocational education programs in Albania

According to official data from the website of the National Agency for Vocational Education and Qualifications, the map of the unified professional training programs in Albania is as follows: [6]

Nr	COURSE DESIGNATION
1	Asthetics and Beauty
2	Electrical networking installation and maintenance
3	Hydraulic installation and maintenance
4	Cooking
5	Furniture builder
6	Hairdresser
7	Masonry and plaster works
8	Tiler
9	Electric appliances (repairs)
10	Dressmaker / Tailoring
11	Welding
12	Electro-auto for small cars
13	Engine repairs for small cars
14	Guest services for hotels
15	Services for bar and restaurant (waiter)
16	Wood repairs
17	Fruticulture
18	Masonry for restorative works

[6] The Program of Qualified Unified Courses, National Agency for Vocational Education, Training and Qualifications, can be found in the link: https://www.akafp.gov.al/programe-te-kurseve-te-unifikuara-fp/

Nr	COURSE DESIGNATION
19	Sun panels repairs and maintenance
20	Air-conditioning system installation
21	Mechanic for industrial machines
22	Traditional plaster works
23	Car service (generic)
24	Sails services
25	Tourist Guide
26	Albanian Sign language translator
27	Painting and decorating
28	Gardening
29	Manicure Pedicure
30	Aluminum Works
31	Auto Bodywork
32	Mechanical works
33	Works on metal cutting machines
34	Secretary
35	Dry systems in buildings
36	Auto mechanics
37	Agricultural mechanics
38	Fruit and vegetable processing
39	Meat processing
40	Dairy processing
41	Dough production
42	Wood works
43	Construction works

Nr	COURSE DESIGNATION
44	Travel Services
45	Thermohydraulic
46	Computer Repair
47	Graphic Design
48	Web Design
49	Typography
50	Beekeeping Services
51	Glasswork
52	Tour Operator
53	Hotel Management
54	Digital Marketing

Desk research in mapping the existing curriculums in the field of employment

Referring to the official data as well as the existing curricula of the National Agency for Vocational Education and Qualifications, there are several curricula in the field of employment based on intellectual services including STEM, soft skills and various skills in technology. Some of them are described below:

UNIFIED "WEB DESIGN" COURSE PROGRAM[7]

1. **Duration of the Course for "Web design":**
   360 teaching hours, where 1 teaching hour = 45 minutes

2. **Professional profile of operators for web design:**

a) Characteristics of operators for web design

Operators (developers) for web design deal with the maintenance, monitoring and responses for the optimal functioning of Internet and Intranet pages, hardware and software of web servers. Modify web pages, perform back-up and recovery operations of the web server, using user information, directly or by telephone, email or other electronic means.

[7] https://www.akafp.gov.al/wp-content/uploads/2024/02/AKAFPK-PKU-Web-dizajn-22.pdf

b) Employment opportunities and professional career

The web design operator profession is closely related to the work procedures related to the use of the language of codes for the creation of the content of the web pages, for the styling of the content of the web pages, and their interactivity. The Web designer performs processing and optimization for simple web pages, images in the photoshop program, for the creation, development and maintenance of web pages. He can be employed in various companies that provide ICT services, in commercial companies that have service departments for ICT users, as well as be self-employed.

3. Competences that the trainees acquire at the end of the Course for "Web design":

At the end of the "Web design" Course, the trainees will be able to:

- *consult with clients, about the requirements of the page that will be designed or modified.*
- *consult with colleagues about orders received from clients, as well as work progress.*
- *formulate the structure of the web page according to the client's requirements;*
- *place the data on the web page according to the client's requirements;*
- *create the database;*
- *publish the web page in the client's "web" space;*
- *create the necessary links on the "web" page;*
- *make periodic or non-periodic modifications of the "web" page according to the client's requirements;*
- *maintain the "website";*
- *update the websites;*
- *do the "back-up" of the "website";*
- *do the site testing;*
- *do the control of the level of access;*
- *monitor and provide optimal support for the operation of the Internet pages, intranet, "hardware" and "software" of the "web" server;*
- *maintain documentation;*
- *develop, coordinate, implement and monitor of security measures;*
- *make recommendations to improve performance;*
- *recommend (or give ideas) for the purchase of new systems; ;*
- *modify "web" pages;*
- *test the "web" page and the database;*
- *perform "backup" and other security operations of the "web" server;*
- *consult the guides of use, technical manuals and other research documents and find solutions to the problems encountered;*
- *make preventive measures for the various services that are carried out in the business unit;*
- *apply the rules of technical insurance and environmental protection.*

"COMPUTER REPAIR" UNIFIED COURSE PROGRAM[8]

1. Duration of the "Computer Repair" Course:

360 teaching hours, where 1 teaching hour = 45 minutes

[8] https://www.akafp.gov.al/wp-content/uploads/2024/02/AKAFPK-PKU-Riparim-kompjuteri-22.pdf

2. Profile of computer repair professional:

a) Characteristics of computer repairers

The repairer of personal computers (desktop and laptop) performs the repair and maintenance of hardware and software of personal computers (desktop and laptop). For the realization of its functions, in any case it follows a rigorous procedure predetermined by a specialist or a group of specialists of a higher level.

For the successful completion of these tasks, the computer repairer must possess professional knowledge related to the basic concepts and procedures, as well as the professional skills related to the professional activity of the computer repairer. The success of the computer repairer is closely related to behaviors (attitudes) such as: coolness, dexterity, care, concentration, non-use of alcoholic beverages, correctness, discipline, etc., behaviors that help him meet the requirements and cope with the difficulties of work.

b) Employment opportunities and professional careers of computer repairmen

Computer repairers can be employed in computer service units or companies, in various institutions for computer maintenance, in computer sales units or self-employed for computer maintenance and repair. With work experience and additional qualifications, the computer repairer can advance professionally to the level of qualified repairer.

Then, through further qualification at vocational schools, training at vocational training centers or through work, a computer repairman can undertake some supervisory functions while working his way up the career ladder as a computer technician. Attending high school leads to the graduation of specialists in this profession at the level of engineer for information and communication technology.

In order to develop a private activity in the field of maintenance and repair of computers, it is necessary to register for activity as a natural or legal person, as the case may be. This course prepares trainees with professional competences to exercise professional activities included in the "Installers and information and communication technology services specialist", with code 7422, referred to the National List of Professions.

3. Competences that the trainees acquire at the end of the "Computer Repair" Course:

At the end of the "Computer Repair" Course, trainees will be able to:

- *prepare the workplace;*
- *select the right tools, instruments and work materials;*
- *use work tools for the repair and maintenance of personal computers (desktop and laptop);*
- *perform measurements of electronic parameters;*
- *analyze catalogs, manuals and technical documentation of personal computers;*
- *read and analyze the technical diagrams of various electronic devices;*
- *implement simple diagrams with electronic elements;*
- *follow the technical instructions for assembling and repairing the device;*
- *disassemble and assemble the physical parts of personal computers;*
- *maintain personal computers;*
- *diagnose irregularities of personal computers;*
- *repair hardware parts of personal computers;*
- *repair software parts of personal computers;*

- *uninstall and install programs on personal computers;*
- *test the operation of personal computers;*
- *perform the physical connection of the computer with peripheral devices;*
- *perform the updating of computer operating systems;*
- *report periodically to superiors;*
- *perform simple economic calculations for the works performed;*
- *communicate with professional ethics;*
- *apply the rules of privacy protection and computer security;*
- *apply the international standards operating in the sector of*
- *information and communication technology;*
- *apply rules of technical insurance and environmental protection.*

"DIGITAL MARKETING" UNIFIED COURSE PROGRAM [9]

1. **Duration of the "Digital Marketing" Course**

300 teaching hours, where 1 teaching hour = 45 minutes

2. **Professional profile of the digital marketing specialist:**

a) Characteristics of the digital marketing specialist

Digital marketing specialists plan, develop and implement information dissemination programs to promote their organizations, products or services, with the help of digital technology. They promote the company and represent it in the sale of a series of products or services of different natures. For the successful implementation of these tasks, the digital marketing specialist must possess professional knowledge related to basic concepts and procedures, as well as professional expressions related to the professional activity of digital marketing.

The success of the digital marketing specialist is closely related to behaviors (attitudes) such as: communication with professional ethics, composure, dexterity, care, concentration, non-use of alcoholic beverages, correctness, discipline, etc., behaviors that help him to meet the requirements and cope with the difficulties of work.

b) Employment opportunities and professional careers

The digital marketing specialist profession is closely related to work procedures to plan, develop and implement information distribution programs with the help of digital technology, which serve to promote organizations. They produce a variety of digital products, such as SMS marketing, E-mail marketing, WhatsApp marketing, etc., which are then used to promote organizations. Digital marketing specialists can be employed by an organization (business) or can work as a freelancer (free profession), making possible the digital promotion of different companies at the local, national and international level. with code 2431, referred to the National List of Professions.

3. **Competencies that the trainees acquire at the end of the "Digital Marketing" Course:**

At the end of the "Digital Marketing" Course, trainees will be able to:

- *conduct market studies, analyze the findings, plan marketing strategies for the*

[9] https://www.akafp.gov.al/wp-content/uploads/2024/02/AKAFPK-PKU-Marketingu-digjital-22.pdf

- *organization and its products;*
- *be informed about the product, services and all work links in the organization where they work, with the help of digital technology;*
- *plan marketing campaigns and public relations activities to*
- *promote the organization's product or services;*
- *support business growth and development, preparing and implementing objectives,*
- *policies and marketing programs;*
- *plan and organize publicity campaigns in the media, print ads, videos as well as*
- *organize promotional events for the organization, its products or services;*
- *evaluate and select materials written by journalists, photo materials, illustrations, official statistics, studies or other materials to create the most favorable publicity for the company;*
- *be informed about competitors' products, techniques and their promotion campaigns;*
- *report and consult with the organization's managers, or shareholders about competitors' products or services, about market conditions and future trends;*
- *understand consumer needs and explain or demonstrate the organization's products or services to them;*
- *visit and meet regularly with potential customers to advertise the organization's new products or services to them;*
- *maintain a database of customer, customer and devise online marketing campaigns by presenting them with new products (e-mail marketing); devise online promotion of the organization, products or services through websites, blog posts, updating social media, posting videos and advertising them to reach as many target readers and viewers as possible;*
- *sign contracts, negotiate prices and contract terms with customers;*
- *report on customers' requests, remarks or suggestions to managers, the board of directors;*
- *suggest the improvement of products, services, after analyzing customer reactions, or the effect of campaigns publicity;*
- *analyze the results of promotional activities and the effect of their conversion into profit for the organization;*
- *search, study and suggest new ways of marketing with digital means;*
- *communicate with professional ethics;*
- *increase their professional skills.*

"TYPOGRAPHY" UNIFIED COURSE PROGRAM[10]

1. **Duration of the Typography Course**

   360 teaching hours, where 1 teaching hour = 45 minutes

2. **Typographer's Professional Profile:**

a) Characteristics of typography

The typographer is capable of performing professional tasks as an employee in a typography (printing) company/department where he performs tasks related to the printing of books, magazines, newspapers and other typography products. For the successful implementation of

[10] https://www.akafp.gov.al/wp-content/uploads/2024/02/AKAFPK-PKU-Tipografi-22.pdf

these tasks, the typographer must possess professional knowledge related to basic concepts and procedures, as well as professional skills related to the professional activity of typography.

The typographer's success is closely related to behaviors (attitudes) such as: coolness, skill, care, concentration, non-use of alcoholic beverages, correctness, discipline, etc., behaviors that help him meet the requirements and cope with the difficulties of work.

b) Job opportunities and typographic professional career

The profession of typographer is closely related to the work procedures of prepress, printing, bookbinding and final printing works. He can be employed in a typography company initially as an assistant typographer. With work experience and additional qualifications, typographers can progress professionally to the level of qualified typographer. Then, through further qualification in vocational schools, training in vocational training centers or through work, a typographer can undertake some supervisory functions, moving up the career ladder as a typography technician. To develop private activity in the field of typography, it is necessary to register to exercise the activity as a natural or legal person, as the case may be. This course prepares trainees with professional competences to exercise professional activities included in the "Typographer" unit, with code 7321.20, referred to the National List of Professions.

3. Competences that trainees gain at the end of the Typography Course:

At the end of the Typography Course, the trainees will be able to:

- *Use and interpret the technical documentation of typography;*
- *Perform the small work organization in the typography department;*
- *Select and use the tools, equipment, instruments, machines and proper work materials;*
- *Maintain tools, materials, equipment and machines in the work environment;*
- *Perform measurements and controls related to typography works;*
- *Perform paper cutting procedures;*
- *Perform procedures of washing, water, etc;*
- *Carry out the procedures of loading the car;*
- *Carry out the procedures of placing and removing the car;*
- *Perform the procedures of supplying ink, solutions.*
- *Perform the printing procedures;*
- *Perform the folding procedures;*
- *Perform the gathering procedures;*
- *Perform the sewing procedures;*
- *Perform the gluing procedures;*
- *Perform the procedures of book cutting;*
- *Perform book cutting procedures;*
- *Perform book control procedures;*
- *Perform packaging and packaging procedures;*
- *Perform simple economic calculations related to printing works and products;*
- *Complete the technical and financial documentation for the printing works and products;*
- *Apply the standards of the typography profession.*
- *Apply the rules of technical security and environmental protection during the printing works;*
- *Communicate with superiors and colleagues with professional ethics. and customers.*

At the end of this report, from the analysis of all the data, curricula and interviews, a series of recommendations are worth addressing as follows, which would further improve professional education in Albania to align with the demands end of the labor market with a focus on the inclusion of technology:

- The government must define clear objectives and an increased attention together with other actors at the local, national and international level to empower the schools themselves. reality of young people included in the labor market and their preferences
- Review of the general and professional education system as an empowering alternative for the needy strata and young people in general. (Example: Germany's duo system)
- Designing additional promotion strategies for schools and professional clubs as a more sustainable opportunity for the labor market.
- Prioritizing and giving more focus to the advancement of digital skills in all professions.

BOSNIA AND HERZEGOVINA

Overview of the existing non-formal educational curriculums of vocational education programs in Bosnia and Herzegovina

Education is a process that enables individuals to acquire knowledge, skills, and values through formal and informal learning methods crucial for individual development. Education for young people and adults can be formal, non-formal, and informal learning, and all three types of education are present in Bosnia and Herzegovina. The structure of the formal education system in Bosnia and Herzegovina is highly decentralized and fragmented. Formal education in BiH is not only not under the jurisdiction of the state but, in the case of the Federation of Bosnia and Herzegovina, the responsibility for this sector is delegated to the cantonal levels, and in some cases even to the municipal level, further contributing to the complexity of this system.

Formal Education

The Education Sector of the Ministry of Civil Affairs is responsible for formal education at the state level. The functions and capacities of this ministry are limited and mainly involve coordinating lower administrative bodies on education matters and overseeing the implementation of adopted education laws at all levels. The Republika Srpska entity, the 10 cantons in the Federation of Bosnia and Herzegovina, and the Brčko District have primary responsibilities for education in Bosnia and Herzegovina. The Federation of Bosnia and Herzegovina has limited responsibilities, mostly related to coordination among cantons.

At the entity level in Bosnia and Herzegovina, there are two ministries responsible for formal education. In the Federation of Bosnia and Herzegovina, it is the Ministry of Education and Science, while in Republika Srpska, it is the Ministry of Education and Culture. In the Brčko District, the responsibility for education is delegated to the Education Sector of the District Government. Each of the ten cantons in the Federation of Bosnia and Herzegovina has its own Ministry of Education and regulations on education. Cantons independently finance education according to their constitutional powers, and cantonal ministries of education are also responsible for science, culture, and sports. Budgets, capacities, and sizes of these ministries vary from canton to canton.

Formal education in Bosnia and Herzegovina is mostly financed from public funds of the entity budget, cantonal budget, Brčko District budget, and municipal budget, depending on the jurisdiction. This practically means that there are thirteen separate budgets for education in Bosnia and Herzegovina, including two entity budgets, one in the Brčko District, and ten cantonal budgets. Republika Srpska allocates about 4% of its GDP for education, the Federation of Bosnia and Herzegovina allocates about 6% of GDP, while the Brčko District allocates 11.2% of the total District budget for education. The fragmentation of the education system is reflected in this segment, as there are significant differences in average spending per student, as well as differences in salary levels and allowances for employees in the education sector across the country.

Education in Bosnia and Herzegovina is organized into four basic levels: preschool education and upbringing, primary, secondary, and higher education. According to the latest available statistical data from the 2022/2023 academic year, Bosnia and Herzegovina has 1,738 primary schools, around 312 secondary schools, and 38 licensed higher education institutions, both private and public. Secondary education offers various opportunities, including general education (gymnasiums), vocational education, artistic, and religious education. General secondary education lasts for four years, while vocational secondary education, provided through technical and vocational schools, lasts for three or four years.

A secondary vocational qualification is obtained upon successful completion of secondary education lasting three or four years in a secondary school, which can be an independent institution or part of a school or secondary school center. This qualification can be obtained in different types of institutions, such as gymnasiums, vocational schools for education and training (art schools, technical schools, vocational schools), artistic and religious schools, as well as schools for students with developmental difficulties. In the 2022/2023 school year, a total of 107,936 students enrolled in 312 secondary schools in Bosnia and Herzegovina.

Higher education in Bosnia and Herzegovina is organized into three cycles:

- The first cycle leads to the academic title of a completed graduate study, which is obtained after a minimum of three and a maximum of four years of regular study and is valued at a minimum of 180 or 240 ECTS credits. An exception is made for studies in the field of medical sciences, which are valued at 360 ECTS credits.
- The second cycle leads to the academic title of master or equivalent, obtained after completing a graduate study, lasts one or two years, and is valued at 60 or 120 ECTS credits.
- The third cycle leads to the academic title of doctor or equivalent, lasts three years, and is valued at 180 ECTS credits.

Higher education institutions must be accredited to operate and provide diplomas and certificates to their participants. According to the provisions of cantonal laws on higher education, the Law on

Higher Education of Republika Srpska, and the Law on Higher Education in the Brčko District of Bosnia and Herzegovina, an accreditation request is submitted to the competent educational authorities. After the assessment of the request, the Agency appoints a Commission of experts that provides a recommendation on the accreditation of the higher education institution. After obtaining the accreditation decision, the Agency verifies the compliance of that decision and registers the higher education institution in the State Register of Accredited Institutions in Bosnia and Herzegovina.

Laws of Republika Srpska and cantonal laws in the field of higher education are aligned with the provisions of the Framework Law on Higher Education in Bosnia and Herzegovina. Higher education institutions in Bosnia and Herzegovina, according to the Framework Law, can have the status of a university or college. Currently, there are 38 accredited higher education institutions according to data from the Agency for the Development of Higher Education and Quality Assurance of Bosnia and Herzegovina.

In the 2022/2023 academic year, during the winter semester, 73,250 students were enrolled in the first cycle of higher education studies, including short cycles and integrated studies. Out of this number, 64,064 students were enrolled in all years of study, while 9,186 students were graduates. Higher education institutions are funded in accordance with laws and regulations by the authorities of Republika Srpska or the Federation of Bosnia and Herzegovina. Higher education activities are governed by the laws of Republika Srpska or the Federation of Bosnia and Herzegovina at the entity level, while the Ministry of Civil Affairs at the state level coordinates higher education activities between the two entities.

Adult Education and Non-formal Education

In Bosnia and Herzegovina, there is a general problem in the education system manifested by a lack of adaptation to the needs of the labor market. This problem is further manifested by the marginalization of adult non-formal education. Lifelong learning, especially adult training and education, represents the most prevalent activities in this context. These activities are carried out in regular vocational schools using curricula and programs adopted from formal education, applying the same methodology as regular schooling in vocational schools.

According to the Framework Law on Primary and Secondary Education in Bosnia and Herzegovina, adult education is organized for their professional and personal development. Adult education includes vocational training, retraining, upgrading, and other activities that enable lifelong learning. Details related to adult education are regulated by laws of entities, cantons, and the Brčko District of Bosnia and Herzegovina in accordance with the principles and standards defined by the Framework Law. According to the Framework Law on Vocational Education and Training in Bosnia and Herzegovina, schools can organize adult training within their registered activities with the consent of competent educational authorities. The competent minister adopts the curriculum for adult education and training. Also, the same law defines that adult training participants are charged a fee for training, the amount of which is determined and adopted by the school board with the consent of the competent ministry of education.

When it comes to adult education, it is important to emphasize that there are only three centers in Bosnia and Herzegovina dealing with retraining and upgrading, located in Bihać, Sarajevo, and

Široki Brijeg. This is insufficient to meet the population's needs for this type of improvement. The most common types of non-formal education in Bosnia and Herzegovina are courses offered by private training centers or companies primarily engaged in providing training, courses, and workshops. However, various forms of non-formal education offered by companies or experts in their fields, who primarily do not deal with non-formal education but engage in completely different activities, are gaining increasing popularity. The most sought-after courses for young people in Bosnia and Herzegovina are in the field of IT technical skills, but there is also a growing demand for other types of courses such as project management, digital marketing, graphic design, 3D modeling, financial controlling, risk management, budgeting, and similar areas.

Some analyses and research point out problems in the field of non-formal education in Bosnia and Herzegovina:

- A small percentage of diplomas and certificates issued by non-formal education organizations to their successful participants are recognized.
- Non-formal education is underdeveloped to meet the modern demands of the labor market.
- Lack of strategic planning in non-formal education, resulting in undefined and unplanned functioning.

List of existing VET providers in Bosnia and Herzegovina

As we analyzed the landscape of existing Vocational Education and Training (VET) providers in Bosnia and Herzegovina, we provide a comprehensive overview of the VET providers offering programs in the areas of Small Business Management, Entrepreneurship, Programming, and Virtual Assistance. The table below summarizes the mapped VETs within Bosnia and Herzegovina, with the basic information of the organization's name, its website, contact email and phone number, name of the responsible person, as well as the city.

Name of the organization	Website	E-mail	Phone	Responsible person	City
Faculty of Economics, University of Zenica	https://ef.unze.ba	ef@unze.ba	Tel: (+387 32) 460 467, 460 444	V. prof. dr. sc. Ajla Muratović – Dedić	Zenica
Faculty of Economics, University of Sarajevo	https://www.efsa.unsa.ba/ef/bs	efsa@efsa.unsa.ba	387 33 275 900	prof. dr. Meliha Bašić	Sarajevo
Faculty of Economics, University of Mostar	https://ef.sum.ba/hr/pe-240-ects	dekanat@ef.sum.ba	387 (0)36/ 355-100	red.prof.dr.sc. Igor Živko	Mostar
Academy387 Sarajevo	https://academy387.com	contact@academy387.com	387 33 941 261	Mladen Ignjatović	Sarajevo
Zenica Youth Center	https://czm.ba	info@czm.ba	062 115 966		Zenica
Nika	https://edukativnicentarnika.com	info@edukativnicentarnika.com	387 51 371 430		Banja Luka
Development Agency Zavidovici	https://raz.ba	info@raz.ba	061 704 834		Zavidovići

CEO - Center for education and training	https://ceo.ba	info@ceo.ba	061 291 551		Tuzla
Association Svitanje	https://svitanje.ba	https://svitanje.ba/kontakt/	387 33/537-646, +387 62/232-332		Sarajevo
IT Academy	https://www.it-akademija.com/	office@it-akademija.com	+387 (33) 788 525 +387 (33) 788 526		Sarajevo
Nahla IT	https://nahla.ba/kursevi/programiranje-u-pythonu-pocetni-nivo/	edukacija@nahla.ba	387 33 710-652	Nizama Ahmed	Sarajevo
Nahla IT	https://nahla.ba/kursevi/osnove-programiranja-u-c/	edukacija@nahla.ba	387 33 710-652	Nizama Ahmed	Sarajevo
OAK	https://oak.ba/edukacije/informacijske-tehnologije/cpp/	info@oak.ba	387 64 41 20 868	Emina Hodžić	Sarajevo
Dizart	https://dizart.edu.ba/dizart-edu/	info@dizart.edu.ba	061 337 480		Sarajevo
Lanaco	https://lanacoedukacija.com/	edukacija@lanaco.com	387 51 335 506		Banja Luka

Conducting interviews with representatives of VET providers

As part of the second step of the process, we conducted interviews with representatives from vocational education and training (VET) providers in Bosnia and Herzegovina. Our aim was to gain firsthand insights into the existing curriculums offered by these institutions and organizations.

Throughout this process, we conducted a total of three interviews, ensuring a diverse range of perspectives and experiences. In each interview, we aimed to connect with individuals who had in-depth knowledge of their organization's curriculum and its development. By targeting the most suitable contact persons within each institution, our goal was to extract the most accurate and comprehensive information possible. These interviews provided invaluable insights into the structure, content, and delivery methods of the VET curriculums from different providers.

Interview No 1 - Faculty of Economics - University of Zenica

We conducted an interview with a representative from the Faculty of Economics at the University of Zenica, Dean Ajla Muratović Dedić, and gathered information about the Business Management program, which aligns with the area of starting and running small businesses. Education program in the Business Management field at the Faculty of Economics in Zenica has been available since the academic year 2006/2007. Currently, approximately 53 students are enrolled in this program, which spans one academic year (2 semesters). There are currently around six lecturers engaged in the program. The balance between theoretical and practical learning is such that this program caters to individuals who seek to blend conceptual knowledge and skills from business with practical insights from management.

Initially, the program provides foundational knowledge in business and management, followed by the provision of managerial expertise, skills, and tools in various areas including understanding business, entrepreneurial management, strategic management, organizational behavior, and other related topics. Upon completion of the program, students attain the title of Master of Economics, with the program accredited by the Ministry of Education. A curriculum syllabus has been developed for this program. The academic staff of the Faculty of Economics, in collaboration with stakeholders, participated in the development of the curriculum syllabus. Throughout the program, efforts have been made to enhance the curriculum syllabus, with the Vice-Dean actively involved in integrating current topics into the curricula, considering that this program represents a continuation of the first cycle of studies. The curriculum is publicly accessible on the website of the Faculty of Economics.

Interview No 2 - Educational organization „Dizart“

We conducted an interview with Mr. Jasmin Ahmić, the director of the educational organization Dizart, to gather information about their CNC Programmers/Operators program, which is tailored towards professions in programming. Despite not directly participating in training programs, Mr. Ahmić provided us with valuable insights. Dizart offers two vocational training programs for adults: one for CNC technicians/operators, initiated in 2018, and another for ROBOT operators/programmers.

The CNC program spans 150 hours, conducted three times a week over three months with three instructors involved. Approximately 40 participants enroll annually, focusing primarily on practical learning. Certification is earned through passing a test at the end of each training cycle, aiming to equip participants with all necessary skills for future roles. Upon completion, participants receive the title of CNC technician/operator.

The program is accredited by the Ministry of Education of the Sarajevo Canton, with curriculum development involving external collaborators and Director Ahmić. Although curriculum refinement wasn't addressed during training implementation, the program maintains its standards.

Interview No 3 - Online Academy

We conducted an interview with the president of the association and one of the instructors from the Online Academy educational organization to gather insights into their C++ program, designed for professions in programming. Both the president and the instructors actively contribute to the training programs. The number of participants varies depending on the program, typically ranging from 5 to 30 individuals.

The C++ program spans 22 school class hours, organized into 11 sessions of 2 hours each. It is led by a single instructor, maintaining a balanced approach between theoretical and practical learning (50:50). The program emphasizes the development of soft skills. Upon course completion, participants undergo testing and receive a certificate, as the program is pending accreditation by the Ministry of Education.

Each course/program has its curriculum developed in collaboration with professors and external partners. Currently, there hasn't been a need for curriculum refinement, as the existing curriculum is regarded as robust and well-structured.

Analysis and mapping of existing non-formal educational curriculums of vocational education programs in Bosnia and Herzegovina

In our attempt to better understand and assess non-formal educational curriculums within vocational programs across Bosnia and Herzegovina, we performed a thorough analysis and mapping process. Our focus areas were Small Business Management, Entrepreneurship, Programming, and Virtual Assistance.

Through our research, we've identified a total of 7 programs dedicated to Small Business Management, 2 to Entrepreneurship, and 6 to Programming. Interestingly, we have not encountered any programs specifically tailored to Virtual Assistance. This part of the report aims to provide an overview of the existing programs and the organizations that provide them. By examining these findings, stakeholders can gain a clearer understanding of the educational landscape and its alignment with industry demand.

Name of the organization	Program name	Program period	Description	More information	City
Faculty of Economics, University of Zenica	Management	In progress	https://ef.unze.ba/wp-content/dokumenti/studentska%20sluzba/nastavni%20planovi/NPP_OM.pdf	Curriculum available online	Zenica
Faculty of Economics, University of Sarajevo	Management	In progress	https://www.efsa.unsa.ba/ef/bs/menadzment	Program structure available online	Sarajevo
Faculty of Economics, University of Mostar	Management	In progress	https://ef.sum.ba/sites/default/files/staticke-stranice/dokumenti/NP_PE.pdf	Curriculum available online	Mostar
Academy387 Sarajevo	Academy for own business	2017 year	https://academy387.com/program/akademija-za-vlastiti-biznis	Program description and content available online	Sarajevo
Zenica Youth Center	iSKOraK – Partnership for new jobs	2023 year	https://czm.ba/evropska-unija-podrzava-drugi-ciklus-obuka-pokreni-svoj-posao-u-sklopu-iskorak-projekta/		Zenica
Nika	Creation of a business plan	In progress	https://edukativnicentarnika.com/izrada-biznis-plana/	Content and detailed description available online	Banja Luka

Development Agency Zavidovici	Business Plus	In progress	https://raz.ba/javni-poziv-za-ucesce-u-programu-poduzetnickih-obuka-business-plus/	Program description available online	Zavidovići
CEO - Center for education and training	Entrepreneurship and starting a business venture	2023 year	Enable those interested to understand the concept and meaning of entrepreneurship and to accept entrepreneurship as a fundamental (developmental) life competence that ensures employability and competitiveness.		Tuzla
Association Svitanje	Academy of entrepreneurship	2020 year	https://svitanje.ba/2020/10/07/mladi-lideri-3-akademija-poduzetnistva/	Content available online	Sarajevo
IT Academy	AI & Python Development	In progress	https://www.it-akademija.com/python-development-program-obrazovanja	Content and detailed description available online	Sarajevo
Nahla IT	Programming in Python	2023 year	https://nahla.ba/kursevi/programiranje-u-pythonu-pocetni-nivo/	Content available online	Sarajevo
Nahla IT	Basics of programming C++	2023 year	https://nahla.ba/kursevi/osnove-programiranja-u-c/	Content available online	Sarajevo
OAK	C++	In progress	https://oak.ba/edukacije/informacijske-tehnologije/cpp/	Course plan available online	Sarajevo
Dizart	Programming and working on CNC laser machines	In progress	https://dizart.edu.ba/dizart-edu/	Program description available online	Sarajevo
Lanaco	Introduction to Python programming	In progress	https://lanacoedukacija.com/project/uvod-u-python-programiranje/	Program description available online	Banja Luka

Desk research in mapping the existing curriculums in the field of employment

As the next step in our project, we conducted desk research to map existing curriculums related to employment in the field of intellectual services, including STEM, soft skills, and various teleworking job market skills. Our analysis covered 14 programs offered by different organizations, each providing valuable insights into skill development in these areas.

As part of the program profiling which you will see below, we included information such as Program Name, Field, and Program Summary. In the Summary part, for each program we highlighted its objectives, duration, content covered with specific subjects and topics included, as well as outcomes, contributing to a comprehensive overview of available educational offerings in the field. Through this research, we aimed to identify key areas of focus and assess the effectiveness of existing curriculums in meeting industry demands and learner needs.

Programs from the Field of Programming

Organization Name: Center for Education and Research Nahla
Program Name: Fundamentals of Programming in C++
Field: Programming
Program Summary: The "Fundamentals of Programming in C++" program took place during the period of 2023, from October to December. The program consisted of 12 sessions totaling 24 school classes. Topics covered by this program include:

- Basic concepts and introduction to the working environment (Visual Studio)
- Commands for input and output of texts
- Variables
- Operators
- Selection ('if else', 'if else if', 'switch', 'conditional operator')
- Iterations ('while loop', 'do while loop', 'for loop')
- Functions
- References

At the end of this program, participants received a certificate for successfully completing the course, as well as a solid foundation in programming with the ability to develop their own applications in the C++ language and understand basic programming concepts that can be applied to other programming languages. One instructor was involved in this program.

Organization Name: Center for Education and Research Nahla
Program Name: Python Programming
Field: Programming
Program Summary: The "Python Programming" program took place during the period of 2023, from November to December. The program consisted of 10 sessions, each lasting 90 minutes. Topics covered by this program include:

- Introduction to the working environment
- Data types, loops, functions, data structures
- Standard libraries, modules, and packages
- Data Frames
- Data manipulation and visualization
- Regular Expressions
- Final project/task development – independent analysis of a specific database with just a few clicks and visualization of results

At the end of this program, participants received a certificate for successfully completing the course, as well as basic knowledge and a good foundation for programming. One female instructor was involved in this program.

Organization Name: Lanaco
Program Name: Introduction to Python Programming
Field: Programming
Program Summary: The "Introduction to Python Programming" program will be held in 2024, from March to April, spanning 40 hours. Topics to be covered by this program include:

- Installation, choice of IDE
- Pip, packages, and virtual environments
- Jupyter Notebooks
- Data Types and Variables
- Lists, tuples, and dictionaries
- Program flow – if statement, loops
- Functions, lambda functions
- Object Oriented Programming
- Modules and packages
- Errors and Exceptions

The course aims to teach all participants the basic principles of programming, fundamentals of object-oriented programming, and tricks of the Python programming language. At the end of this program, participants will receive a course attendance certificate.

Organization Name: ITAcademy
Program Name: AI & Python Development Program
Field: Programming
Program Summary: Education in this program begins in March 2024 and lasts for 2 semesters (a total of 260 hours). This program covers 17 subjects:

- Python and Programming Fundamentals
- HTML & CSS Fundamentals
- Object-Oriented Programming in Python
- Python Net Programming
- MySQL Programming and Administration
- English Language 1 / German Language 1
- Web Application Building
- Python Data Access and Processing
- Graphic Applications Development
- Test Automation and Quality Assurance
- Service Applications Development
- Blockchain Technologies
- Cambridge Computer Science
- Machine Learning and AI
- Introduction to Large Language Models
- English Language 2 / German Language 2
- Cambridge First Certificate in English (FCE)/Business English Certificate Vantage (BEC Vantage)

In this track, participants will acquire the necessary skills to obtain highly valued Python Institute certificates, which enable Python programmers worldwide to access the best-paid and most interesting jobs in this field. Certificates obtained upon completion of the program include:

- PCEP – Python Institute Certified Entry-Level Python Programmer
- PCAP – Python Institute Certified Associate in Python Programming

- Certiport IT Specialist Python
- Cambridge International A&AS Level Computer Science
- ITAcademy Certificate of completion of the AI & Python Development program
- ITAcademy Certified AI & Python Developer certificate

Organization Name: OAK Online Academy
Program Name: C++
Field: Programming
Program Summary: The "C++" program is currently active and attended two to four times per week, depending on the participants' preferences. Each session, or class, lasts for 45 minutes. The duration of online education is 22 hours, with 20 hours designated for education and the last two hours for taking the final exam. Areas covered during the education include:

- Introduction to programming
- Microsoft Visual Studio
- Header files
- Common errors
- Identifiers
- Variables
- Data types
- Operators and expressions
- Conditional statements
- Loops
- Arrays
- Functions
- Output formatting
- String functions
- Recursive functions
- Pointers

Upon completion of the education, participants undergo testing, and based on the results of that testing, they receive certificates of successful completion. One female instructor is involved in this program.

Organization Name: Dizart
Program Name: CNC Programmers/Operators
Field: Programming
Program Summary: The program is currently active and spans 150 hours. Modules covered during the program include:

- SolidWork basic
- ColidCam basic
- Manual G-code programming
- Practical work on machines

After completing the first part, participants can continue to come and practice independently in their free time. This is an accredited program, and upon completion, all participants receive a certificate valid in Bosnia and Herzegovina and on the global market.

Programs from the Field of Entrepreneurship and Small Business Management

Organization Name: Faculty of Economics, University of Zenica

Program Name: Management
Field: Small Business Management and Entrepreneurship
Program Summary: Subjects in the first two years of study are common to all students of the Faculty of Economics, while subjects in the third and fourth years of study are created according to the chosen specialization. Therefore, the Management specialization lasts for 8 semesters. The study is based on innovative curricula and programs. Subjects are graded according to the ECTS (European Credit Transfer System) system, which enables vertical and horizontal mobility of students. In this sense, each academic year carries 60 ECTS credit points, and upon completion of the undergraduate study, a student should achieve a total of 240 credit points. Upon completion of this specialization, all students receive the title of Graduate Economist, and the program involves 6 lecturers. Subjects taught in this specialization include:

- International Marketing
- Quantitative Methods in Economics
- International Economics
- International Business
- Entrepreneurship
- Financial Management
- Organizational Behavior
- Human Resource Management
- Corporate Management
- Marketing Management
- Business Decision Making
- Business Planning
- Strategic Management
- Crisis Management
- Project Management
- Corporate Social Responsibility
- International Management

Organization Name: Faculty of Economics, University of Sarajevo
Program Name: Management
Field: Small Business Management and Entrepreneurship
Program Summary: The study lasts for six semesters with a total of 180 ECTS credits, including professional practice and a thesis. Within the Management program, students study key terms, paradigms, principles, concepts, and theories that support management in a wide range of businesses. During the study, students develop analytical skills and become familiar with various quantitative methods applied in research. Upon completion of the study, students possess knowledge and skills in fundamental and specialized areas of management necessary for employment and further education in the field of business. Upon completion of this study, a bachelor's degree in management is obtained. The program is divided into 6 semesters, with all students attending the first four. Only in the fifth semester do students choose one of the offered specializations. In the management and organization specialization, students study the following subjects:

- Leadership
- Human Resource Management
- Micro, Small, and Medium Enterprise Management
- Organizational Behavior
- Crisis Management

- International Management
- Business Decision Making

Organization Name: Faculty of Economics, University of Mostar
Program Name: Management
Field: Small Business Management and Entrepreneurship
Program Summary: The study lasts for eight semesters with a total of 240 ECTS credits. Specializations are chosen upon enrollment in the fourth year, and specializations with the highest number of interested students are offered, including management. Upon completion of the study, a Bachelor of Economics degree is obtained. In the Management specialization, students study the following subjects:

- Economic Policy
- Human Resource Management
- Management of Non-Profit Organizations
- International Management
- Strategic Management
- Project Management
- Managerial Accounting

Organization Name: Academy 387
Program Name: Academy for Self-Owned Business
Field: Small Business Management and Entrepreneurship
Program Summary: This program was active in 2017 and lasted for 4 weeks. The Academy for Self-Owned Business is a concept of professional development primarily aimed at existing business owners/managers and those who want to start their own business. The lectures covered all necessary practical financial knowledge. The education included 4 lecture modules:

- How to manage company finances?
- How to manage company debts?
- Why do good companies go bad?
- What is the value of my company?

Organization Name: Youth Center Zenica
Program Name: Start Your Business
Field: Small Business Management and Entrepreneurship
Program Summary: This program was active in 2023, and participants underwent training with a certified trainer from the International Labour Organization, learning the basics of starting their own business and writing a business plan. The training involved 50 participants.

Organization Name: Educational Center Nika
Program Name: Business Plan Development
Field: Small Business Management and Entrepreneurship
Program Summary: This program is conducted over 32 hours. The classes are scheduled according to the participants' availability. By attending this program, participants learn:

- How to establish vision, mission, and business strategy
- How to set realistic goals and define a plan for their achievement
- How to strengthen competitive position through SWOT analysis
- How to realistically assess the current state of the enterprise
- How to develop a high-quality and realistic market strategy

- The significance of management functions for the ultimate business outcome
- How to understand and develop financially achievable projections

Upon completion of the training, participants receive a certificate of program attendance.

Organization Name: Development Agency Zavidovići
Program Name: Business Plus
Field: Small Business Management and Entrepreneurship
Program Summary: The Business Plus program will be active from April 2024. The training will last for 4 days, and the basic training modules include:

- Entrepreneurship Basics
- Market and Competitor Research
- Business Process Definition
- Management and Administration
- Production and Sales Planning
- Business Enterprise Finances

The Business Plus project is supported through a joint grant scheme implemented by the Federal Ministry of Development, Entrepreneurship, and Crafts and the United Nations Development Programme (UNDP) in BiH under the project "Better Governance for Faster Economic Growth."

Organization Name: Association Dawn Sarajevo
Program Name: Young Leaders – Entrepreneurship Academy
Field: Small Business Management and Entrepreneurship
Program Summary: This program was held in October 2020. It was structured based on six educational sessions with a practical workshop on creating a business plan, covering the following topics:

- Business Idea Development
- Legal Forms of Entrepreneurship
- Human Resources Management
- Accounting and Finance
- Sales and Marketing
- Business Plan Development

Four lecturers were involved in this program.

In conclusion, our analysis of non-formal educational curriculums within vocational education programs in Bosnia and Herzegovina has provided valuable insights into the current landscape. One notable observation is the absence of programs dedicated to virtual assistance, a field with promising opportunities in the international labor market. We strongly recommend that efforts be made to develop curriculums tailored to virtual assistance to align with emerging industry demands and provide those who are interested in this profession with relevant skills for future employment.

Furthermore, our research and deep dive into the curriculums shows that programs for small business management do not place a strong focus on the development of practical skills in the area. We believe that the importance of hands-on experience in preparing people for entrepreneurship and owning small businesses needs to be taken into account when developing such programs.

We have found that despite the progress in curriculum development, Bosnia and Herzegovina's vocational education sector still faces challenges in fully meeting the evolving needs of the workforce. There is a clear need for stronger support and investment in the development and implementation of vocational education programs to ensure the country's competitiveness and relevance in the global economy. As Bosnia and Herzegovina continues to develop in this segment, addressing these gaps and enhancing the quality and accessibility of vocational education will be crucial for fostering economic growth and prosperity.

CROATIA

Overview of the existing non-formal educational curriculums of vocational education programs in Croatia

Vocational education in Croatia is usually a part of formal education system, even in adult education. There are numerous programs within adult education institutions which provide an official certificate. Only recently in the last 10-15 years, there has been a shift in educational perspective – private companies and individuals started offering different educational programs.
There are two reasons for this – either it is a new revenue stream for a company or the company uses vocational training to fill the gap in labor force, especially in IT sector. New skills, tools and areas are emerging so fast that the formal education system can't keep track with that pace. Therefore, private sector started educating itself. Experts and experienced workers are training and mentoring anyone willing to learn.
Similar situation is in the case of four programs analyzed in this document. Virtual assistant is a relatively new vocation in Croatia and only one who can give any type of knowledge and insight is someone who is already doing that job. While basic programming is being taught in all formal education programs in IT, non-formal programs are provided by either private IT companies or NGOs who work in that field.
Self-employment and running a small business are topics usually interesting to those who are already in a private sector in some way and they wish to learn from someone who has more experience. Often those who educate are small company owners working in different fields while education is an extra source of income.
This document outlines several curriculums in topics mentioned above. All VET providers who were interviewed emphasized the importance of updating the curriculum and keeping up with the market. Learners what to learn the latest tools and information so all educator mentioned that continuous upgrade of the curriculum, sometimes even on a monthly basis, is a must.
Other important conclusion is that all curricula, no matter the topic, have to provide multidisciplinary approach. Any job in today's market requires subject matter competences or hard skills, but also good soft skills such as communication, feedback, team work, problem solving etc. Therefore, all educational programs have to focus on these topics too, even if the main subject of the program is something else. This is particularly present in self-employment and running a small business educational programs.
Last thing to mention is the importance of STEM, especially computer literacy for all educational programs. While it is a „must-have" for any type of programming, it is widely accepted that learning about tools, programs and apps is a part of any job today. Almost all educational programs have at least a short module or a session about IT component of the job.

List of existing VET providers in Croatia

Virtual assistant education:

1.1. SV media, educator Ivana Matić, Petra Krešimira IV 55, 20350 Metković (Croatia), https://virtualni-asistent.com.hr/postani-virtualni-asistent/

1.2. Eduza, educator Martina Žgomba, Radnička 45, 51000 Rijeka, info@eduza.hr, https://www.eduza.hr/postani-virtualni-asistent/25/

2. Basic programming

2.1. Infinum Academy, Strojarska 22 10000 Zagreb, Croatia, https://infinum.academy/#courses

2.2. SmartNinja, Programming or beginners, online education, https://smartninja.hr/programiranje-za-pocetnike/

2.3. Machina Academy, C++ programming online course, Marijana Derenčina 1, Zagreb, Croatia, https://machina.academy/c-programiranje

3. Self-employment

3.1. Start-up Academy, Plavi ured, Vodnikova 12/2, 10000 Zagreb, https://plaviured.hr/edukacije/start-up-akademija/Radnička cesta 80, 10000 Zagreb

3.2. Edukacije APPA, Self-employment and starting a business, Radnička cesta 80, 10000 Zagreb, https://edukacije-appa.hr/kontakt-informacije, info@edukacije-appa.hr

3.3. Learning Wizard d.o.o., Nikole Zrinskog 68, Slavonski Brod, Self-employment training course, maja@learning-wizard.com

4. Running small businesses

4.1. CEPOR, Education for new entrepreneurs, Trg J.F.Kennedya 7 10000 ZAGREB, deterovic@cepor.hr https://www.cepor.hr/edukacije/edukacija-za-poduzetnike-pocetnike/

4.2. Opulento, Education or entrepreneurs, Cvijete Zuzorić 3, Zagreb, gordan@opulento.hr, https://edukacija.opulento.hr/

4.3. ABC solutions, Little school for entrepreneurs, Ulica sv.Mateja 45, 10010 Zagreb, https://abc-solutions.hr/mala-skola-za-poduzetnike-v-modula/, edukacije@abc-solutions.hr

Conducting interviews with representatives of VET providers

For the purpose of this analysis, interviews were conducted with one VET provider from all four educational topics. For the topic of virtual assistant education, interview was held with Ivana Matić, owner and educator of SV media, a small private company which provides the course. Ivana designed and started offering the course based on a high demand and many inquiries for this job. The job of virtual assistant has become very popular in the last 4-5 years because it pays well and it enables remote work and flexible working hours. Based on her own experience, she designed the curriculum which covers all important elements of the role – writing the CV and cover letter,

creating an online profile and personal branding, learning how to effectively use a number of digital tools etc. Ivana mentions that the curriculum is easily changed and updated, sometimes even personalized, based on the needs of participants, especially because the course has a one-on-one approach. Learners have various background in education, but mostly they are young, up to 30 years of age. They prefer the option of learning at their own pace and project-based tasks. About 40% of the curriculum is theory, while the rest is practical work. So far, about 20 people have taken the course. The course is not accredited by Ministry of Education, but participants receive the certificate of participation at the end of the course.

For the topic of basic programming, interview was conducted with Zrinka Ratković, educator of basic programming course at Smart Ninja, who designed the course herself. This education company gathers experienced IT professional in different areas who provide courses. This particular course lasts 4 weeks and it is held online. Learners don't need to have any previous knowledge; however, they need to have knowledge of English language which is the basis of programming. Zrinska says that they don't change the curriculum often because these basic topics are established foundations for any further learning of programming. As the topic requires, there is a short theoretical introduction followed by practical work and tasks. Most participants are employed people who work in other fields such as marketing, sales or accounting and they need this knowledge for work. Some participants use this course as a basis for learning a new skill for possible switch in a labor market. So far, about 60 people have taken the course. The course is not accredited by Ministry of Education, but participants receive the certificate of participation at the end of the course.

For the topic of self-employment, interview was conducted with two providers as they offer two different types of education. Plavi ured is an educational part of co-working space and business incubator in Zagreb. Lena Čičak, who runs Plavi ured, says they offer courses based on the market situation and research among entrepreneurs. This particular course, Start-up academy, is free and for anyone who wishes to start an entrepreneurial journey. Educators change, depending on their availability, but they are all entrepreneurs who speak from experience. The course sticks to 4 basic topics – marketing, human resource, finance and funding. Curriculum was developed by experts and it is updated before each course. The course has started almost 10 years ago, so far around 1000 people have taken it. Plavi ured offers a number of other courses, so learners can further participate in specific courses they are interested in. Start-up academy is a face-to-face course and learners widely range in age, jobs and educational background. The course is not accredited by Ministry of Education, but participants receive the certificate of participation at the end of the course.
Other interview was held with Maja Katinić Vidović, owner of Learning Wizard company which specializes in personalized learning. Her courses about self-employment are not public, but companies or NGOs hire her to deliver an educational program for their needs. Sometimes it is courses for deaf or hard-of-hearing, sometimes for long-term unemployed women etc. That's why she customizes the curriculum each time while making sure she uses non-formal education methods such as group work, simulation, self-reflection and others. Her course incorporates not only typical topics for self-employment – business plan, product/service, marketing, but also necessary competencies such as time management, self-discipline, creativity and others. More than 400 people have participated in her courses so far. Certificate of participation is usually provided by the organizers.

For the last topic of running a small business, Mirela Alpeza, a CEO from CEPOR, gave an insight into their program. Their course is designed mostly for new, „fresh “entrepreneurs, but anyone can

participate if they want to learn more. Educators are entrepreneurial consultants and business people. Mirela designed the curriculum, but educators are expected to update it before each course. It is in face-to-face format and has a strong economical emphasis. Most participants have already started a business and would like to know more. Even though first 3 modules of curriculum are focusing more on planning and creating a business idea, Mirela says that they keep those modules to provide time and space for learners to reflect on their process and skills. Often times, this has proved to be beneficial for learners. The course is mostly theoretical, with short exercises in between, lasting for 2 weeks – 8 module for 4 hours each. So far, about 150 people have taken the course. The course is not accredited by Ministry of Education, but participants receive the certificate of participation at the end of the course.

Analysis and mapping of existing non-formal educational curriculums of vocational education programs in Croatia

Mapping the existing curriculums

Non-formal education in Croatia is traditionally undermined and regarded as a way of learning a bit more on a specific subject. When it comes to education for employment, most people prefer any type of formal education or training because of the final certificate which is then added to official documents. IT industry is among rare ones which doesn't require a formal diploma for employment and that is why non-formal education programs in IT are most popular and seen as an opportunity for getting a job.
There are no official statistics or numbers to know how many people attend non-formal education programs, especially in topics relevant for this analysis. Curriculums are made by experienced educators, usually customized for the needs of learning. Some are delivered online, most face-to-face, some in hybrid format.

Virtual assistant curriculums mostly focus on learning how to use tools for communication and assistance. These tools include Slack, Canva, Google Workspace, Discord, Trello etc. Often, they include modules on writing blogs, preparing social media posts and personal branding. Being a virtual assistant is a remote job so education is also including learning about time management. Many virtual assistants have multiple clients which is why education consists of learning how to create online presence and CV, good portfolio and professional communication. There is one big difference between curriculums on this topic and that is the option of internship. While almost all programs include project-based task, some include internship with a possibility of employment. These details affect the final price of the courses, which vary from 150€ to 650€.

Basic programming curriculums are quite straightforward, almost all include strings, functions, loops, object-oriented programming and, depending on the provider, introduction to some language – HTML, CSS, C++, Python, JavaScript. All providers focus on one or two languages as it is widely accepted that one person should master two or three languages maximum. Mentioned languages are a foundation for other, more complex one. All curriculums include project-based tasks as it is considered a best way to apply the theoretical part of programming. Important thing to mentions is that all educational programs offer a long-term access to course materials, even after the course is finished, which can be very helpful to learners.

Self-employment curriculums have many things in common. Usually, they all include idea creation, putting that idea into a business plan, coverage of skills necessary for any type of entrepreneurship and how to get funds to start a business. Depending on a duration, some programs go „deeper "into the topics and cover the basics of economics – marketing, sales, finance. However, this educational program is mostly reserved for helping individuals in creating and shaping their business idea into a marketable reality. Other important aspect is reflection and empowerment for entrepreneurial soft skills. Many people have a perception that being self-employed is easy and doesn't require constant self-improvement. That is why a thorough program includes soft skills – time management, project management, resource management, feedback, communication or any other relevant one.

Running a small business curriculum can be very comprehensive, depending on the sector of a particular business. In general, all curriculums include legal framework of doing business in Croatia, doing finance – creating invoices, basics of accounting, revenue, costs, sales – how to sell a product/service, deal with complaints, communicate with a client, marketing – creating a website, using social media, design of marketing materials. However, curriculums also widely vary in other topics they cover. Some cover market research, some focus on human resources and hiring, others on accounting details. This is why the prices of the courses also widely vary, from 200€ to 1000€. Researching these curriculums proves that a learner must choose wisely when starting an education because entrepreneurs should choose based on their needs.

Curriculum analysis

Four curriculums were chosen for analysis, each topic corresponding to the topics for the project.

a. **Become a virtual assistant - https://www.eduza.hr/postani-virtualni-asistent/25/#sadrzaj**

Online training course lasts 6 weeks and it accepts up to 10 participants. Anyone can apply, no previous knowledge or experience is necessary. Each week consists of one module:

- Who is a virtual assistant
- Necessary skills
- Time management
- Business strategy
- Organization of work
- Basic work tools

Curriculum offers video tutorials on how to use work tools such as Trello, Clockify, Calendly, Canva, Wix, Mailerlite. All materials are available even after the completion, including the videos. Upon completion, learners receive a non-formal certificate.
The program has several benefits for learners. All participants become members of private Facebook group where they can share, ask and discuss. This can be very helpful for newcomers in the field because they can get direct access to course alumni and experiences colleagues. There are bonus video from other experts in personal branding, digital marketing and other areas. This helps learners to learn for multiple resources and changing the educator can refreshing. Major benefit of the program is an opportunity for internship which enables practice and getting a first client. This is extremely important for a newcomer in the field, it is a motivation and great „push "for someone who doesn't know where to start. Last, but not least, benefit for participants is one free yearly membership of an accounting software program.

Possible drawback of the program is that it is completely online which doesn't suit all type of learners. Some learners prefer at least a partial face-to-face learning and communication with the educator. Although there are weekly Zoom meetings, learning at your own pace can be challenging and lack of motivation might lead to early dropout.

b. Programming for beginners - https://smartninja.hr/programiranje-za-pocetnike/

Online synchronous learning course lasts 4 weeks with 2 sessions per week. It is intended for beginners, no previous knowledge is necessary, although knowledge of English language is welcome. Lessons are:

- Intro to Python
- Strings
- Numbers and conditions
- Lists and FOR loops
- Functions and testing
- Object-oriented programming (OOP)
- JSON & API
- GUI

This very basic course enables participants to create a simple Python program for gathering data from the website. This can be useful for marketing or finance programs. These basic programming concepts allow for learners to build upon and learn/switch to a different programming language for web development, app development or something else. Lectures are held online and live, however, participants can access recorded lectures after the completion. The course has its Slack channel for communication and sharing.
As with a previous program, online learning can be difficult for some learners, even though programming is a computer job. Also, programming is a major science, there a numerous languages and new tools and updates are appearing almost monthly. Python is a good start, but it would be beneficial if the course offers one other language as well, as it might be difficult for someone to switch easily.
4 weeks is quite short period of time to cover all the basics of programming and it would be good to mention that participants will probably have to do a lot of learning and research alone and outside of the course, especially after the completion.
Nevertheless, curriculum predicts that learners will create up to 10 projects during the course which can then be added to CV. The course itself might not be enough to get a job as a developer, but it can serve as a good foundation for someone who wants a better understanding of programming or wishes to create simple programs for their work.

c. Start-up Academy - https://plaviured.hr/edukacije/start-up-akademija/

This educational program is designed for anyone who wishes to embark on entrepreneurial journey, but also for fresh entrepreneurs who want to learn more. It has 4 module and it is delivered usually through 4 days, each day having 6 hours of sessions:

- Basics of marketing – getting to know and review of participants' business ideas, market research tools, branding, online and offline marketing options

- Legal framework and human resources – which legal form best suits your company, how to choose a name for business, what are yearly fixed costs, how to hire and determine a salary
- Financing and business plan – costs, book-keeping, financial reports, cash-flow, liquidity, tax and VAT, salaries. Planning and creating a business plan
- International business and funding opportunities – important information if one plans to work internationally. Where to look for funding and loans

Those who are interested in starting a company will get all necessary information on this course. Its face-to-face format allows diverse methods, from group work, individual work, simulation etc. The program has good references and testimonials, educators are experienced in their field and one of its biggest benefits is that is free. However, considering that is free of charge, it is also very popular and has a waiting list for participation.
Curriculum has a lot of methods and using a simulation for business plan is certainly a big plus. It helps participants in envisioning their future business idea while getting feedback from educators and other participants.
There is possible room for improvement in module and topic order. It might be good to start the course with business ideas and creating a business plan based on those ideas, then moving onto legal framework and marketing, while pushing the topic of human resources toward the end of the course. If a majority of participants are to be SMEs, hiring is surely an interesting topic, but not a priority. One thing the curriculum lacks is a topic of entrepreneurial skills and what competencies (knowledges, skills and attitudes) it requires. It would be beneficial to add this topic into sessions and provide participants' space and time to reflect on skills they already have and what can be improved.
Curriculum is easily modified based on the needs of the group and market situation, it can host different educators, experts and speakers, and its timeframe is long enough to cover all the basics of starting a business.

d. Small school for entrepreneurs - https://abc-solutions.hr/en/small-school-for-entrepreneurs-module-v/

This comprehensive educational program lasts almost a month, it is delivered face-to-face, with online materials and discussion groups and it is intended for new entrepreneurs, although anyone can apply. It has 5 modules:

- Finances for non- financial people – business idea and best legal form, registration info, VAT system, tax administration, rights and responsibilities of being an owner/director, salaries and tax-free payments, financial statements and other accounting details
- How to sell your product or a service – setting a target group, pricing, influence and negotiation, communication
- Fundamentals of digital marketing – creating a website and SEO, social media management (Facebook, YouTube, Instagram), creating a campaign
- Incentives and how to get them – grants from EU, from Croatian Employment Service, writing a business plan, overview of upcoming tenders
- Employees – labor relations, GDPR and protection at work – contracting, salary, resignation, obligations and protection at work, work from home

Curriculum covers many more topics than are listed above. Based on the information provided on the website, this curriculum offers more than enough for participants, as it provides all technical information for small business, as well as the basics of economics.
Its longer duration might be a minus for some learners, but this enables in-depth coverage of certain topics. Curriculum can be easily changed, if necessary, and updated with latest information and legislation. Each module is delivered by a different educator which is refreshing for participants and allows diversification for educators.
The topic of running a small business is completed one as it has many elements. One has to carefully narrow down everything it involves into a methodologically meaningful program which is beneficial and sufficient for a learner.
It has to leave enough room for question from participants as there will certainly be a lot of them. This can cover in a classic Q&A session or some type of group work which allows peer sharing. Entrepreneurs, especially small ones, choose wisely when investing in education and good curriculum should give them value for their money.

GERMANY

Overview of the existing non-formal educational curriculums of vocational education programs in Germany

Internationally, Germany's VET (vocational education and training) system is recognized as a successful model, largely because of the dual system, which leads to high-quality vocational qualifications and enables smooth education-to-work transitions. Although it is definitely at the heart of the German VET system the dual system does not cover all aspects of the German VET system. There have been 490.267 students in the dual system but also 225.590 students who study in so called full-time vocational schools in 2017 (cf. VET Data Report Germany 2017, p. 90).
The dual system, the central element of the German VET system, is called "dual" because training takes place at two learning venues; in the company and at the vocational school. Apprentices are employed during the apprenticeship by the company.[11]
The digital revolution will bring about significant changes to occupational profiles and training regulations as well as to continuing vocational education and training (CVET), providing challenges that are already being addressed, for example, by the joint "Skills for the digital workplace of tomorrow" initiative of the Federal Ministry of Education and Research (BMBF) and the Federal Institute for Vocational Education and Training (BIBB).[12]
There are 370 Vocational Disciplines study programs available at 68 universities in Germany, according to data provided by Erudera.com.

List of existing VET providers in Germany

Here is a sample overview of some of the programmes, but more can be foud on this link: https://programs.studying-in-germany.org/vocational-disciplines/bachelor-degree/

[11] SOURCE: https://www.bibb.de/en/39.php
[12] SOURCE: https://www.bmbf.de/bmbf/en/education/the-german-vocational-training-system/the-german-vocational-training-system_node.html

Program Name	University	Degree	Location
Berufsschulpädagogik	University of Applied Sciences for Medium-Sized Companies	Bachelor degree	Bielefeld
Business Psychology	BSP Business School Berlin	Bachelor degree	Berlin
Education (Landau)	University of Koblenz and Landau	Bachelor degree	Koblenz
Occupation and Education	Otto-von-Guericke University Magdeburg	Bachelor degree	Magdeburg
Professional and work-based learning studies in the professional subject areas Electrical and Electronic Engineering and Metals Technology	Justus Liebig University Giessen	Bachelor degree	Giessen
Professional and work-based learning studies in the professional subject areas of Agriculture, Nutrition and Domestic Science	Justus Liebig University Giessen	Bachelor degree	Giessen
Social Education (with teacher's option)	Leuphana University of Luneburg	Bachelor degree	Lueneburg
Agricultural Science	University of Bonn	Bachelor degree	Bonn
Agriculture and Horticulture/Landscape Design (Teaching Qualification for Vocational Schools)	Technical University of Berlin	Bachelor degree	Berlin
Animal Sciences (Animal Husbandry)	University of Bonn	Bachelor degree	Bonn
Automotive engineering	RWTH Aachen University	Bachelor degree	Aachen
Body Care	Technical University of Darmstadt	Bachelor degree	Darmstadt
Bromatology and Domestic Science	University of Bonn	Bachelor degree	Bonn
Building Engineering	RWTH Aachen University	Bachelor degree	Aachen
Building technology	Technical University of Kaiserslautern	Bachelor degree	Kaiserslautern
Business and administration	Otto-von-Guericke University Magdeburg	Bachelor degree	Magdeburg
Business Education with Integrated Elective (Business Education II)	Ludwig Maximilian University of Munich	Bachelor degree	Munich

Business Informatics (minor vocational specialisation)	University of Duisburg-Essen	Bachelor degree	Essen

Annually, Germany witnesses the initiation of approximately 520,000 new training contracts spanning across 326 recognized training occupations. Moreover, the country facilitates around 30,000 foreign placements in vocational education and training each year, underscoring its commitment to international cooperation. Career orientation programs engage a substantial cohort of 800,000 participants, aiding in informed career decisions. Notably, half of the workforce engages in occupation-related continuing education and training, reflecting a culture of lifelong learning. For more comprehensive insights, interested parties can refer to the Data Report accompanying the Report on Vocational Education and Training, providing further data and information on the subject.
Here is a more detailed overview of VET schools in Gemany: https://www.choicelab.de/schools

Digital transformation of the world of work in Germany

The joint initiative of the Federal Ministry of Education and Research (BMBF) and the Federal Institute for Vocational Education and Training (BIBB) systemically examines qualifications for specialist staff and competencies for the digitalised world of tomorrow.
Home working, workstations, hybrid forms of work – ever since the start of the pandemic, it has been hard to imagine our everyday lives without mobile working. Companies and their employees all over the world have adapted to the new way of working. Meanwhile, outright Zoom towns are emerging in which the proportion of remote workers is particularly high. Germany is even said to be a veritable paradise for remote workers: according to the Global Remote Work Index, Germany ranks first in the world and also within Europe when it comes to the best countries in which to work remotely.[13]

Conducting interviews with representatives of VET providers

INTERVIEW 1 SUMMARY: Music Lab Emmendingen – a look at transferable experiences

We conducted the interview with the director of this music schoold, Mr. Krishan Lukanow, who is also a music teacher with innovative pedagogic methodologies:
At Music Lab Emmendingen, we pride ourselves on our distinctive approach to music education with our commitment to diversity, inclusivity, and a stress-free learning environment. Our learners span various cultural backgrounds and abilities.
Our pedagogical philosophy is centered around an open approach to music education, emphasizing exploration, improvisation, and the unique contributions of each learner's cultural heritage to the "musical conversation." The positive impact of our approach is evident in the overall satisfaction and well-being of our students, who enjoy a fulfilling learning journey tailored to their individual needs and backgrounds.
Our extensive collaboration with local schools and institutions, supported by a network of partners, exemplifies our commitment to making music education accessible to all. Through

[13] SOURCE: https://comma-soft.com/en/blog/is-germany-becoming-a-home-working-paradise-a-closer-look-at-remote-working/

initiatives like the Singing Laboratory, Adventure Arts, and instrumental lessons for band classes, we strive to enrich the educational landscape.
The pedagogical approach of Music Lab Emmendingen holds significant potential for vocational educators aiming to create more remote work opportunities. By centering education around diversity, inclusivity, and stress-free environments, and prioritizing exploration and improvisation, this approach can be adapted beyond music education to various vocational fields. Emphasizing the unique contributions of each learner encourages creativity and problem-solving skills, essential for remote work. Furthermore, the focus on collaboration and partnership with local institutions can inspire vocational programs to build networks that support remote learning and working opportunities. This open pedagogy fosters an adaptable, skills-focused workforce prepared for the demands of today's digital and diverse work environment.

INTERVIEW 2 SUMMARY: Youth Power Germany – a look at Erasmus+ curriculums for entrepreneurship education

Franjo Brkan, the Director of the Youth Power Germany e.V is our final interviewee.
Youth Power Germany e.V., located in Berlin, is a non-governmental, non-profit organization dedicated to empowering young people, particularly those overcoming social and cultural obstacles, including migrants. Our core mission is to highlight the unique strengths and diversity of young people, fostering unity and aiding their integration into society.
Our approach is rooted in non-formal education, offering resources designed for those working with youth, and focusing on creating connections and opportunities for meaningful engagement.
One such opportunity is Entrepreneurship education for seniors and adults with fewer opportunities, and Erasmus+ project.
The motivation for this project was to equip seniors and adults with fewer opportunities with a set of skills needed for personal development in the areas of entrepreneurial intelligence and creating (self-)employment opportunities, proactively in today's reality of employment insecurity and the world of extinction of many familiar jobs and occupations now and even more so in the future. This new needed capacity was entrepreneurial intelligence – a competence trained and developed through the acquisition of various skills, knowledge, and attitudes through quality non-formal adult education.
To empower seniors and adults with fewer opportunities in entrepreneurial intelligence and mindset development (including intrapersonal and interpersonal social-emotional and creativity competences), through the development of an inspiring, innovative, and up-to-date handbook and e-learning courses.

Analysis and mapping of existing non-formal educational curriculums of vocational education programs in Germany

Desk research in mapping the existing curriculums

The German VET system, with its dual training model, is central to the country's economic success. It ensures that students gain comprehensive vocational competence, crucial for adapting to the demands of the modern and future job market, including remote work in sectors such as IT, engineering, and science. The system is supported by cooperation between companies, vocational schools, and inter-company vocational training centers, guaranteeing a uniform national standard of training.

Vocational orientation

Vocational orientation takes place on the level of compulsory education within the German education system. Early vocational orientation and the fostering of cross-cutting core skills help ensure a seamless transition from school to the working world.

The dual system

The dual system, the central element of the German VET system, is called “dual” because training takes place at two learning venues: in the company and at the vocational school. Apprentices are employed during the apprenticeship by the company.

School-based initial training

Apart from the dual systems, school-based initial training is the main form of training in some sectors like the health sector. This school-based approach is supplemented by several internships and practical stages in companies. However, apprentices are not employed by a company.

Dual study programmes

Dual study programmes were created as a form of educational provision offering both an academic and a practical vocational qualification. This system is aimed at supporting learning transfer and hence achieving a benefit over purely academic or purely hands-on forms of initial vocational training.

Higher education study programmes

Higher education programmes are mostly academic programmes but some of them offer vocational elements that link them to the vocational education system and the world of work.

Continuing education

Continuing vocational education and training takes lifelong learning into account and is the classical field for courses to deepen and supplement vocational knowledge, competencies and skills. In practice, a distinction is made between retraining, advanced training and adaptation training.

MORE INFORMATION:
https://www.cedefop.europa.eu/en/tools/vet-in-europe/systems/germany-u2

Good VET examples

- Introductory Training (Einstiegsqualifizierung – EQ): Aimed at young people with limited VET placement prospects, EQ enhances personal and vocational competencies, acting as a "door-opener" to apprenticeships for about 70% of participants.

- Dual VET (Duale Ausbildung): This flagship program integrates school-based and practical learning, with training conducted both in companies and vocational schools. It's designed to equip apprentices with comprehensive vocational competence, with a significant focus on STEM fields and remote work capabilities.
- „Four Champions“ of training occupations: Modern standards for all trainees in the dual system Germany‘s in-company training is structured according to nationwide standards. They are anchored in the training regulations by law. They are occupation-specific and are based on real work processes. Four new themes have now been introduced to supplement all current training regulations:

    - Digitised Working World
    - Environment and Sustainiability
    - Safety and Health at the Workplace
    - Company, VET, Labour and Tarif Law

These new themes will be included into all the present occupational programs and so, will apply to all trainees. The topics enjoy a high priority in Germany and therefore have been given due attention by the policy-makers. All companies involved in training are obliged to integrate and implement these subjects in their individual company training programs.

General higher education entrance qualification training or special training in business: Business (especially industrial and trading companies, insurance companies) offers training courses which are specially tailored to school leavers with a higher education entrance qualification and which are referred to as “Special training in business” or “General higher education entrance qualification training”.
There are different models for these training opportunities in the individual Federal States. They are usually characterised by practical relevance, close reference to the needs of business and high theoretical standards. There are offers in the commercial area, but also in IT (business IT specialist), foreign languages and in the field of transport (air traffic controllers). In the part-time vocational school, knowledge of bookkeeping, accounting, marketing, IT or foreign languages is taught in specialist classes.
There is a special general higher education entrance qualification training especially for the following professional groups:

- Industrial technologist - specialising in data technology
- IT assistant
- IT specialist
- Business IT specialist
- Air traffic controller

During the training period, learners receive remuneration from the company providing training.

- ChoiceLab is a new online resource which has been developed to aid vocational orientation for school pupils and higher education students in Germany. It launched in 2021. ChoiceLab supplements existing provision by concentrating on the non-tangible factors which inform occupational decisions. Does an occupation offer a good work-life balance? How demanding are the tasks to be performed, and what degree of autonomy

can be expected in an occupational field? www.choicelab.de thus provides a service which goes beyond alignment to personal skills or financial incentives.[14]

ChoiceLab supports learners in their choice of educational and career paths. They prepare relevant data and present it in an accessible way so that learners have a clear view of difficult career decisions.
The project was launched in 2017 by Felix Busch. Felix completed his doctorate on labor market issues at the University of Oxford and learned about the complexity of career planning. He is currently working as a postdoc at the Swiss Job Market Monitor at the University of Zurich.
As stated above in te first section of the report, ChoiceLab regularly collects data from all schools in Germany and publishes it in an interactive map. Using their tool, one can use the search filters to search for specific school types in your state:
https://www.choicelab.de/schools

Analysis of curricula relevant to DRUPWB

Dual study program in Business Administration – Digital Business Management
Location: Freiburg im Breisgau
Link: https://www.ausbildung.de/stellen/duales-studium-bwl-digital-business-management-m-w- d-bei-suedvers-in-freiburg-im-breisgau-07e88d9d-8484-452f-bcf2-1eaab7087a9b/
Curriculum:

- Gain practical, real-world experience by applying theoretical knowledge to actual processes.
- Develop a comprehensive understanding of project and process management, digitalization, and transformation.
- Explore the concepts of change and change management within business contexts.
- Acquire in-depth knowledge of both strategic and operational aspects of company dynamics.
- Familiarize yourself with all relevant business sectors to effectively implement future requirements as a digital business manager.
- Engage actively in projects to enhance hands-on learning experiences.
- Receive continuous support and guidance from experienced specialists throughout the curriculum.

Benefits:

- Practical, real-world experience combined with theoretical knowledge application.
- Comprehensive understanding of project and process management, digitalization, and transformation.
- Exposure to various business sectors for effective implementation as a digital business manager.
- Active engagement in projects for hands-on learning.

[14] Busch, F. (2022). *ChoiceLab – a new vocational orientation online resource: Focusing on the intangible factors governing career choice*. Bonn: Franz Steiner Verlag

- Continuous support from experienced specialists.

Drawbacks:

- Limited focus on specific technical skills related to virtual assistants or basic level programming.
-

School education in game engineering

Location: Berlin

Link: https://www.ausbildung.de/stellen/schulische-ausbildung-game-engineering-m-w-d-bei-s4g-school-for-games-gmbh-in-berlin-1a271150-3cda-4411-852c-4b55f46840ed/

Curriculum:

This two-year full-time, paid school course at our locations in Berlin and Hamburg was developed specifically for anyone interested in technology and programming who wants to work professionally in game programming, engine development or front-end development. The diverse tasks in the job include the technical implementation of game ideas and mechanics as well as features, the integration of 2D and 3D graphics in game engines, but also the (further) development of tools.

Learner will regularly train under the guidance of industry professionals in the use of tools, game engines and scripting and programming languages that are used to develop games. These include, for example, C#, C++ or blueprints, version control systems as well as game engines such as Unity, Godot and Unreal.

During the project work in the first three semesters, the learner can apply what they have learned directly in an authentic development environment and are responsible for the technical implementation. In order to offer all students a direct springboard into industry, a mandatory internship lasting several weeks is part of the curriculum in the fourth semester.

Benefits:

- Specialized focus on technology, programming, and game development.
- Hands-on training under industry professionals using relevant tools and languages.
- Direct application of learning through project work and mandatory internships.

Drawbacks:

- Specific to game development and may not directly align with virtual assistant or general programming skills required for self-employment or small business ventures.

Entrepreneurship education for seniors and adults with fewer opportunities

Location: National and EU level

Link: https://yp-de.org/resources/curriculum-for-the-training-course-empowering-youth-workers-to-encourage-digital-entrepreneurship-start-ups-among-youngsters/

Curriculum:

This curriculum serves as a tool for all interested youth trainers, enhancing knowledge management in youth organizations. It facilitates easy and high-quality dissemination of knowledge and practices for the education and empowerment of youth workers interested in digital entrepreneurship education. Specific objectives of the training course include:

- Introducing participants to the basic principles of non-formal education, including distinctions between formal, non-formal, and informal learning, as well as learning styles and their impact on non-formal education.

- Reflecting on the theoretical framework of Entrepreneurial Learning (EL), exploring its definition, purpose, and existing models, and inspiring the implementation of various EL models in youth work to enhance young people's competencies.
- Understanding the concept of new entrepreneurship and reflecting on individual and organizational competencies needed to support quality education and youth work for preparing young people for entrepreneurship in the digital era.
- Introducing participants to ICT and digital entrepreneurship, visualizing future opportunities created by the digital revolution, and familiarizing them with the concept of a digital company.
- Providing participants with tools to initiate a digital company and experiencing the challenges and benefits of a digital workplace.
- Understanding the competencies required by digital entrepreneurs within the SKA model (Skills, Knowledge, Attitudes) and exploring how youth work can help develop relevant soft skills for digital entrepreneurship.
- Introducing digital marketing concepts, including content marketing, advertising methods, and the importance of online marketing for digital startups.
- Familiarizing participants with various social media tools and maximizing social media results for digital startups.
- Exploring visual presentation in digital marketing, emphasizing the importance of selecting visual content and utilizing photography for online campaigning.
- Developing non-formal education workshops related to digital entrepreneurship for local youth work.
- The training course is grounded in the principles and methods of non-formal education, utilizing interactive and participatory approaches tailored to participants' profiles and needs. Methods include theoretical lectures, individual/group activities, group games, simulations, discussions, and collaborative work on examples.

Benefits:

- Comprehensive curriculum covering various aspects of digital entrepreneurship.
- Emphasis on non-formal education methods and practical application.
- Focus on developing soft skills and competencies required for digital entrepreneurship.
- Integration of digital marketing concepts and tools.

Drawbacks:

- Primarily targeted at youth trainers, with a focus on youth work, which may not directly address the needs of seniors and adults interested in self-employment or small business ventures.

Connection with Four-Module Curriculum:

The analyzed curriculums provide valuable insights into different aspects of vocational training and education.

Module 1: Virtual Assistants - Elements from 3.2.1 and 3.2.3 can be incorporated to provide a comprehensive understanding of digital business management, project management, and digital entrepreneurship.

Module 2: Programmers (Basic Level) – 3.2.2 offers a specialized focus on programming skills, which can complement the theoretical knowledge provided in 3.2.1 and 3.2.3.
Module 3: Self-Employment – 3.2.3 offers a strong foundation in entrepreneurship education, while elements from 3.2.1 can enhance understanding of project management and operational aspects.
Module 4: Starting and Running Small Businesses - Elements from all three curriculums can be integrated to provide a holistic approach to starting and managing small businesses, covering aspects of digital business management, programming, and entrepreneurship.

MONTENEGRO

Overview of the existing non-formal educational curriculums of vocational education programs in Montenegro

Adult Education and Non-formal Education

The process of reforming the educational system in Montenegro began in 1999, taking into account contemporary trends and the role of adult education and lifelong learning, as well as the significance of social partnership in this field, which led to the definition of a new approach and a clear concept of adult education. Educational reform in Montenegro is a continuous process that requires time and many changes in the entire system. Through this process, adult education in Montenegro is treated for the first time in a qualitatively new way and on an equal footing with other segments of the education system. This concept is presented in the Book of Changes, which provides a long-term vision of the system and what is desired to be achieved in the future, legally embodied in the Law on Adult Education. However, despite the initiated reform activities, adult education in Montenegro still largely serves as a corrective function of the formal education system and is linked to the preparation and implementation of education programs for training, retraining, upgrading, professional development, etc. By May 2016, the competent council adopted 104 education programs leading to the acquisition of national professional qualifications, and 91 programs for key competencies were accredited.

Adult education programs in Montenegro are implemented by licensed adult education organizers. The Ministry of Education issues licenses for operation in these institutions in accordance with legal regulations on the conditions for establishing institutions in the field of education and upbringing. By May 2016, the Ministry had issued permits for 89 institutions in Montenegro.

Data from MONSTAT regarding the percentage of Montenegro citizens aged 25 to 64 participating in lifelong learning programs, which was 2.40% in 2010, 2.80% in 2011, 2.50% in 2012, and 3.10% in 2013, clearly indicate the need for further work on strengthening the concept of lifelong learning, both in terms of promotion and implementation of activities in practice, in order to increase adult citizen participation in lifelong learning programs.

Adult Education Organizers

According to the Adult Education Law, adult education can be organized within a school, specialized adult education organizations (workers' universities, training centers, driving schools, etc.), institutions for the accommodation and care of individuals with special educational needs, and other legal entities that meet the prescribed requirements and hold a license to operate.

To date, the Ministry of Education, Science, Culture, and Sports has issued 115 licenses for adult education. Among the licensed organizers, the majority are private institutions, followed by secondary and primary education institutions, and a few higher education institutions. The highest number of licensed adult education organizers is in the central region of Montenegro with 71, followed by 30 in the northern region and 14 in the southern region.

Licensed adult education organizers are educational institutions where adult education programs are implemented in accordance with legal regulations, leading to the acquisition of national vocational qualifications, key skills, key competencies, and knowledge and skills in various areas.

Organizers of adult education receive a license to operate from the Ministry of Education, Science, Culture, and Sports according to the Regulations on the Licensing Procedure for Institutions in the Field of Education and in accordance with the education program. The General Law on Education and Upbringing and the Adult Education Law in Montenegro regulate the conditions regarding programs, premises, equipment, resources, and teaching staff that an institution must fulfill to obtain a license to operate in adult education.

The number of licensed adult education organizers by regions:

Central Region	71
Southern Region	14
Northern Region	30
Total	115

Podgorica	55
Bijelo Polje	13
Niksˇic	12
Berane	8
Budva	5
Danilovgrad	4
Kotor	3
Herceg Novi	3
Pljevlja	3
Bar	2
Rozˇaje	2
Cetinje	1
Ulcinj	1
Kolasˇin	1
Mojkovac	1
Plav	1
Zabljak	1
Total	115

The structure of licensed adult education organizers by cities in Montenegro significantly reflects the spread of educational offerings in various parts of the country:

It is evident that there is a problem with the lack of licensed adult education organizers incertain parts of Montenegro (especially in the southern and some parts of the northernregion), which needs to be overcome in order to ensure a balanced supply of programs and access to lifelong learning programs throughout the country.

The quality assessment of licensed adult education organizers is conducted by the Center for Vocational Education in accordance with the Methodology for Ensuring and Improving the Quality of Educational Work in Institutions of Lower, Secondary, and Higher Vocational Educationand Adult Education

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List of existing VET providers in Montenegro

Adult education is conducted by teachers, teaching assistants, practical education instructors, lecturers, facilitators, and other professionals, in accordance with the law regulating the relevant field of education or educational program.

Providers must be trained in andragogy. Andragogy training is carried out according to the Program of Andragogy Training for Personnel Working in Adult Education, which is adopted by the competent Council.

Our main objective in accordance to the analysis was in the fields for improvement of key competences (Digital Competences and Entrepreneurship) as well as Programs for obtaining professional qualifications in the field of Architecture and Electrical Engineering.

Field	Name of the organization	Website	E-mail
Education programs for acquiring and enhancing key competencies - digital literacy (information and communication technologies	Centar za obrazovanje i trening ZOPT	https://zopt.me/	cot@t-com.me
	Srednja elektrotehnička škola "Vaso Aligrudić"	https://elektropg.online/ets/	skola@ets-pg.edu.me
	Srednja stručna škola "Ivan Uskoković"	https://masinskapg.me/	skola@siu-pg.edu.me
	Srednja stručna škola "Spasoje Raspopović"	https://sraspopovic.com/	skola@ssr-pg.edu.me
	Škola za srednje i više stručno obrazovanje "Sergije Stanić"	https://sergijestanic.com/	direktor@sergijestanic.com
Education programs for acquiring and enhancing key competencies - entrepreneurship	Centar za obrazovanje i trening ZOPT	https://zopt.me/	cot@t-com.me
	JU Srednja mješovita škola "Vuksan Đukić"	https://srednjamojkovac.me/	skola@sms-mk.edu.me
	Srednja stručna škola "Ivan Uskoković"	https://masinskapg.me/	skola@siu-pg.edu.me
	Organizator obrazovanja odraslih VEDUCO		hvelida@t-com.me
Education programs for acquiring professional qualifications - training.	Edukativni Centar Arhimed	https://sertifikati.me/	info@sertifikati.me
	Multidisciplinarni obrazovni centar PAMARK	https://pamark.me/	pamark@t-com.me
	Srednja elektrotehnička škola "Vaso Aligrudić"	https://elektropg.online/ets/	skola@ets-pg.edu.me
	Srednja građevinsko-geodetska škola "Inž. Marko Radević"	https://gradjevinskapg.me/	skola@ggs-pg.edu.me
	Školski centar MONTORA	https://www.montora.com/	info@montora.com
	Srednja stručna škola Rožaje	https://sssrozaje.me/	sssrozaje@t-com.me

Conducting interviews with representatives of VET providers

This phase aimed to gather firsthand insights into the landscape of vocational education in Montenegro, assess the alignment of curriculums with labor market needs, and identify areas for improvement.

Our endeavor began with establishing partnerships and contacts with key stakeholders, including the *Center for Vocational Education* (CSO) and the *Chamber of Economics,* recognized

entities in the field of vocational education. These collaborations were instrumental in facilitating access to relevant information and expertise, ensuring the integrity and comprehensiveness of our assessment.

Through our engagements with representatives of VET providers, we gained valuable insights into the current state of vocational education in Montenegro. Discussions centered on the adequacy and relevance of existing curriculums, the alignment with labor market demands, and challenges faced in curriculum development and implementation

Interview – Center of Vocational Education

We conducted an interview with a representative from the Center of Vocational Education, Department for Adult Education and Lifelong Learning, Ljiljana Garić and gathered information about programs which cover areas of key competences as well as profesional qualifications in the areas of Architecture and Web and Application design. Both profesional qualifications were created as part of the IPA Project "Development of professional education qualifications in accordance with the needs of the labor market".

Interview – Chamber of Economics

We conducted an interview with a representative from the Chamber of Economics, Mladen Perazić, about innovations in green and digital skills of secondary vocational education for a sustainable lifestyle in terms of EU development policies and recommendations for vocational education institutions in the Western Balkans, progress has been noted in inclusive education following the COVID-19 pandemic. However, there's a need to finalize and adopt the National Vocational Education Program to meet the European Commission's recommendations and enhance the quality of vocational education. EU frameworks like DigComp, DigCompEdu, LifeComp, and GreenComp are crucial for assessing digital and green competencies. There's a gap between the competencies described in these frameworks and the actual situations in vocational education institutions in the Western Balkans, necessitating additional efforts for alignment. Key changes in vocational education programs in the Western Balkans include a greater emphasis on digital and green skills, yet further integration of these skills is still needed. Green and digital skills are somewhat integrated into vocational education programs in the Western Balkans, but there's room for improvement to better meet the demands of the job market. Challenges in updating educational programs are related to the lack of resources, trained staff, and necessary infrastructure for effectively introducing digital and green skills.

Research on the needs for green and digital skills in the labor market is crucial, identifying disparities and deficiencies in these skills. Ensuring the alignment of training programs with the development of EU digital and green competencies requires continuous monitoring of trends and adaptation to labor market needs.

Efficient alignment between local skill needs and European trends in digital and green competencies is crucial through improved training programs, collaboration with relevant industries, and continuous staff education.

Analysis and mapping of existing non-formal educational curriculums of vocational education programs in Montenegro

As part of the program profiling which you will see below, we included information such as Program Name, Field, and Program Summary. In the Summary part, for each program we highlighted its objectives, content covered with specific subjects and topics included, as well as outcomes, contributing to a comprehensive overview of available educational offerings in the field.

Programs from the Field of Architecture

TECHNICIAN FOR ARCHITECTURAL DESIGN AND CONSTRUCTION OF BUILDING BUILDINGS

COMPETENCES:

- Analyzes the work task, plans the implementation and organizes own work and the work of the group for the execution of architectural design work and construction of high-rise buildings
- Provides resources and prepares the workplace for the implementation of architectural design and construction works
- Performs preparatory work for the preparation of technical documentation of the project in question, in accordance with the project assignment
- Creates parts of the conceptual and main architecture project, in coordination with the responsible designer
- Creates parts of the architectural project of the completed building, in coordination with the responsible designer
- Completes technical documentation, in coordination with the responsible designer
- Appraises the value of real estate, under the supervision of an authorized appraiser
- Organizes the construction site and the execution of works on the construction site, in coordination with the responsible engineer
- Provides construction materials, tools, equipment and machinery, in coordination with the responsible engineer
- Performs quality control of materials, equipment and execution of works
- Performs cost estimation and procurement of materials, tools and equipment required for the implementation of the work task
- Completes work documentation according to the prescribed procedure
- Manages the work group for the implementation of the work task
- Supervises the tasks of the working group for the implementation of the work task
- Implements procedures for quality control of work, in accordance with norms and other regulations
- Controls the correctness and functionality of drawing accessories and software packages

- Maintains tools and equipment used for work
- Communicates with superiors, co-workers and clients, using the rules of business communication
- Implements procedures and measures for occupational safety, environmental protection and health preservation.

INTERIOR DESIGN TECHNICIAN

COMPETENCES:

- Analyzes the work task, plans the implementation and organizes own work and the work of the group for the implementation of construction and craft works
- Provides resources and prepares the workplace for the implementation of design and construction works
- Elaborates parts of the conceptual and main interior design project, in coordination with the responsible designer
- Creates a three-dimensional model of the object, in coordination with the responsible designer
- Organizes the execution of construction and craft works on the construction site for the realization of the interior design project, in coordination with the responsible designer
- Performs quality control of materials, equipment and execution of construction-craft works
- Performs cost estimation and procurement of materials, tools and equipment required for the implementation of the work task
- Completes work documentation according to the prescribed procedure
- Manages the work group for the implementation of the work task
- Supervises the tasks of the working group for the implementation of the work task
- Implements procedures for quality control of work, in accordance with norms and other regulations
- Controls the correctness and functionality of drawing accessories and software packages
- Communicates with superiors, co-workers and clients, using the rules of business communication
- Implements procedures and measures for occupational safety, environmental protection and health preservation

Programs from the Field of Engineering

ELECTRICAL TECHNICIAN FOR DEVELOPMENT OF MOBILE APPLICATIONS

COMPETENCES:

- Analyzes the work task, plans and organizes own work and the work of the group for the implementation of mobile application development tasks
- Provides resources for the implementation of mobile application development work
- Prepares a workplace for the implementation of mobile application development tasks
- Installs the development and service environment for mobile application development
- Drafts solutions for mobile application projects
- Creates mobile applications at the request of the user
- Creates and processes multimedia content
- Manages databases
- Makes an estimate of the costs of the implementation of the work task
- Creates work documentation according to the prescribed procedure
- Manages the work group for the implementation of the work task
- Supervises the tasks of the working group for the implementation of the work task
- Implements procedures for quality control of work, in accordance with norms and other regulations
- Maintains working tools
- Communicates with superiors, co-workers and service users using business communication rules
- Implements procedures and measures for occupational safety, environmental protection and health preservation

ELECTRICAL TECHNICIAN FOR WEB APPLICATION DEVELOPMENT

COMPETENCES:

- Analyzes the work task, plans and organizes own work and the work of the group for the implementation of web application development tasks
- Provides resources for the implementation of web application development tasks
- Prepares a workplace for the implementation of web application development tasks
- Installs the development and production web environment
- Drafts web application project solutions
- Creates web applications at the request of the user
- Creates and processes multimedia content
- Manages databases
- Makes an estimate of the costs of the implementation of the work task
- Creates work documentation according to the prescribed procedure
- Manages the work group for the implementation of the work task

- Supervises the tasks of the working group for the implementation of the work task
- Implements procedures for quality control of work, in accordance with norms and other regulations
- Maintains working tools
- Communicates with superiors, co-workers and service users using business communication rules
- Implements procedures and measures for occupational safety, environmental protection and health preservation

Our comprehensive assessment of non-formal educational curricula integrated within vocational education programs in Montenegro has yielded valuable insights into the current landscape. Through this evaluation, we have gained a nuanced understanding of the strengths, challenges, and opportunities within the vocational education sector.

First and foremost, it is evident that Montenegro has made commendable strides in advancing its vocational education programs, particularly in aligning them with contemporary trends and the evolving needs of the labor market. The commitment to reform and innovation within the educational system, dating back to 1999, underscores Montenegro's dedication to lifelong learning and adult education.

However, despite these advancements, our research highlights several persistent challenges that warrant attention and action. One notable concern is the need for greater accessibility and equity in vocational education across different regions of Montenegro. Disparities in the distribution of licensed adult education organizers, particularly in the southern and certain northern regions, pose barriers to accessing lifelong learning opportunities for citizens in these areas. Addressing this geographical imbalance is essential for ensuring equitable access to vocational education programs throughout the country.

Furthermore, while there have been commendable efforts to integrate practical experience and hands-on training into vocational education curricula, there remains room for enhancement. Emphasizing experiential learning opportunities and industry-relevant skill development will be instrumental in better preparing individuals for entrepreneurship, career advancement, and successful integration into the workforce.

As Montenegro continues its journey of educational reform and development, it is imperative to remain vigilant in addressing the evolving needs and demands of the labor market. Close collaboration between educational institutions, policymakers, industry stakeholders, and civil society will be essential in driving forward the agenda of vocational education reform.

In conclusion, the findings of our assessment underscore the critical importance of vocational education in fostering economic growth, social inclusion, and individual empowerment in Montenegro. By addressing the identified challenges and leveraging opportunities for improvement, Montenegro can further strengthen its vocational education system and position itself for sustained prosperity and development in the years to come.

LITHUANIA

Introduction: The Education System in Lithuania

Lithuania's education system is structured to provide both formal and non-formal education opportunities to its citizens, with a focus on academic excellence, practical skills development, and lifelong learning:

1. **Formal Education**:
    - **Structure**: The formal education system in Lithuania follows a typical European model, consisting of three levels: primary education (grades 1-4), lower secondary education (grades 5-10), and upper secondary education (grades 11-12).
    - **Curriculum**: The curriculum is comprehensive and covers a wide range of subjects, including mathematics, science, languages (Lithuanian, English, and often Russian), humanities, arts, and physical education.
    - **Assessment**: Students are assessed through regular examinations and continuous assessment methods. The Lithuanian State Matura examination is a significant assessment tool for upper secondary education, determining access to higher education institutions.
    - **Access to Higher Education**: Completion of upper secondary education allows students to pursue higher education in universities, colleges, or vocational schools.
2. **Vocational Education and Training (VET)**:
    - **Importance**: VET plays a crucial role in Lithuania's education system, offering practical skills training and preparing students for the workforce. It aims to meet the demands of the labour market and promote economic development.
    - **Structure**: VET programs are available both within the formal education system and through specialized vocational schools and training centres. These programs typically combine classroom instruction with hands-on training in various industries, such as technology, healthcare, construction, and hospitality.
    - **Certification**: Upon completion of a VET program, students receive vocational qualifications recognized nationally and often internationally, enhancing their employability.
    - **Government Support**: The Lithuanian government provides funding and support for VET initiatives, including subsidies for vocational schools and partnerships with employers to ensure that training programs meet industry standards.
3. **Non-Formal Education**:
    - **Role and Scope**: Non-formal education complements formal education by offering additional learning opportunities outside traditional academic settings. It caters to diverse interests and age groups, including adult education, lifelong learning, and extracurricular activities for children and youth.

- **Providers**: Non-formal education programs are delivered by various institutions, including community centres, libraries, cultural organizations, and private training providers.
- **Diversity of Offerings**: Non-formal education encompasses a wide range of activities, such as language courses, arts workshops, vocational training workshops, sports clubs, and personal development programs.
- **Flexibility**: Non-formal education programs are often flexible in structure and scheduling, allowing individuals to pursue learning opportunities according to their interests and availability.

VET providers in Lithuania – overview

Here is a general overview of the VET providers in Lithuania:

1. **Vocational Schools**:
    - Vocational schools are educational institutions that offer VET programs primarily to students completing lower secondary education (grades 9-10) and upper secondary education (grades 11-12).
    - These schools provide hands-on training and theoretical instruction in various vocational fields, such as mechanics, electronics, hospitality, healthcare, and business administration.
    - Vocational schools often collaborate with local industries and businesses to ensure that their training programs meet current labour market needs and standards.
    - Graduates of vocational schools receive vocational qualifications and certificates that are recognized nationally and often internationally, enhancing their employability.
2. **Vocational Training Centres**:
    - Vocational training centres offer specialized VET courses and programs to individuals seeking to acquire new skills or enhance existing ones.
    - These centres provide short-term training courses, workshops, and seminars in various vocational fields, catering to both employed and unemployed individuals.
    - Vocational training centres often collaborate with employers, industry associations, and government agencies to design training programs that address specific skill shortages or emerging industry trends.
    - Some vocational training centres also offer adult education programs, including retraining initiatives for individuals transitioning between careers or seeking to re-enter the workforce.
3. **Higher Education Institutions**:
    - Universities and colleges in Lithuania also offer VET programs alongside traditional academic degrees.
    - These institutions provide vocational bachelor's and master's degree programs in fields such as engineering, technology, agriculture, economics, and applied arts.

- VET programs offered by higher education institutions typically combine theoretical knowledge with practical training, preparing graduates for professional careers or further academic study.
- Universities and colleges often collaborate with industry partners to offer internships, apprenticeships, and work-study programs that provide students with hands-on experience in their chosen field.

4. **Private Training Providers**:
    - Private training providers, including vocational schools, colleges, and specialized training institutes, offer a wide range of VET programs tailored to specific industries or professions.
    - These providers may focus on niche areas of vocational training, such as IT certifications, language courses, healthcare training, or creative arts programs.
    - Private training providers often offer flexible scheduling options and specialized training facilities to meet the needs of adult learners and working professionals.
    - Many private training providers partner with industry organizations or international certification bodies to deliver high-quality training programs that are recognized by employers.

Analysis and Mapping of Existing VET Providers in Lithuania

The table below summarizes the mapped VETs in Lithuania, with the basic information of the organization's name, its website, contact email and phone number, name of the responsible person, as well as the city.

Name of the organisation	Website	E-mail	Phone	Responsible person	City
Karaliaus Mindaugo profesinio mokymo centras	https://www.kaupa.lt/en/	rastine@kaupa.lt	+37037221723	Director PhD Nora Pileičikienė	Palanga
Kauno technologijų mokymo centras	https://kautech.lt/?lang=en	centras@kautech.lt	+370 37 314105		Kaunas
Klaipėdos Ernesto Galvanausko profesinio mokymo centras	https://www.gpmc.lt/en/	info@klaipedosgpmc.lt	+370 (46) 340132		Kretinga district
Viešoji įstaiga Vilniaus statybininkų rengimo centras	https://vsrc.lt/	info@vsrc.lt	+37061472898	inga.steckiene@vsrc.lt	Vilnius
Vilniaus technologijų ir inžinerijos mokymo centras (TECHIN)	https://techin.lt/en/	info@techin.lt	+370 5 269 7455	Direktorius Mindaugas Černius	Vilnius
Vilniaus paslaugų verslo profesinio mokymo centras	https://www.vpvpmc.lt/2-uncategorised/1666-about-us-2.html	rastine@vpvpmc.lt	+370 5 277 9357		Vilnius

Verslo ir svetingumo profesinės karjeros centras	https://www.vesk.lt/	info@vesk.lt	+370 5 277 6712		Vilnius district
Vilniaus automechanikos ir verslo mokykla	https://vavm.lt/	vavm@vavm.lt	+370 5 261 85 24		Vilnius
Biržų technologijų ir verslo mokymo centras	https://www.btvmc.lt/	info@btvmc.lt	+370 668 760 68		Biržai
Alytaus profesinio rengimo centras	https://www.aprc.lt/	alytausprc@aprc.lt	(+370 315) 77 979		Alytus
Visagino technologijos ir verslo profesinio mokymo centras	https://www.vpm.lt/	vpm@vpm.lt	+370 386 34 186 +370 386 32 069		Visaginas
Klaipėdos Pauliaus Lindenau mokymo centras	https://lindenau.lt/	info@lindenau.lt	+370 46 34 18 15		Klaipėda
Klaipėdos Ernesto Galvanausko profesinio mokymo centras	https://www.gpmc.lt/.lt	info@klaipedosgpmc.lt	(0 46) 340 132		Klaipėda
Viešoji įstaiga Daugų technologijos ir verslo mokykla	https://www.dtvm.lt/	info@dtvm.lt	(8 315) 72 790		Alytus district
Marijampolės profesinio rengimo centras	https://mprc.lt/	mprcentras@mprc.lt	(8 630) 23333		Marijampolė
Zarasų profesinė mokykla	https://www.zarasupm.lt/	info@zarasupm.lt	+37038530502		Zarasai
Plungės technologijų ir verslo mokykla	https://plungestvm.lt/	sekretore@plungestvm.lt	8 620 76739	Director Audrius Misiūnas	Plungė
Panevėžio mokymo centras	https://www.paneveziomc.lt/	info@paneveziomc.lt	+370 45 439 475		Panevėžys
Šiaulių technologijų mokymo centras	https://www.stmc.lt/	info@stmc.lt	(8 41) 52 47 24	Director Jolita Vengrė	Šiauliai
Viešoji įstaiga Elektrėnų profesinio mokymo centras	https://www.epmc.lt/	rastine@epmc.lt,	(8 528) 39 523		Elektrėnai

Conducting Interviews with Representatives of VET Providers and Mapping the Existing Curriculums

We conducted interviews with three VET provider representatives:

1. **Code Academy**:

- **Programs Offered**: Code Academy provides professional training programs for virtual assistants, programmers, and individuals interested in self-employment and small business management.
- **Start Date**: The training programs were initiated seven years ago.
- **Annual Participants**: Code Academy sees more than 300 participants per year across its various programs.
- **Program Duration**: Courses typically range from 3 to 6 months, offering in-depth coverage of the subject matter.
- **Learning Approach**: The academy maintains a balanced ratio between theoretical and practical learning, ensuring a comprehensive skill acquisition experience.
- **Focus Skills**: The programs focus on practical skills relevant to the IT industry and entrepreneurship.
- **Curriculum Development**: Code Academy has 80 programmes and regularly updates them to align with industry trends and standards.
- **Curriculum Improvement**: Continuous improvement is a priority for Code Academy, with ongoing refinement based on participant feedback and emerging industry requirements.

2. **Sourcery Academy**:
    - **Programs Offered**: Sourcery Academy specializes in professional training for virtual assistants, programmers, and individuals looking to start and manage small businesses.
    - **Start Date**: The Academy introduced its training programs three years ago.
    - **Annual Participants**: Sourcery Academy attracts approximately 150 participants per year, reflecting the demand for its programs.
    - **Program Duration**: Courses typically last between 1 to 3 months, providing participants with a comprehensive learning experience.
    - **Learning Approach**: Sourcery Academy emphasizes practical learning supplemented by theoretical knowledge, ensuring participants gain hands-on skills.
    - **Focus Skills**: The programs focus on equipping participants with the necessary skills for success in the IT sector and entrepreneurship.
    - **Curriculum Development**: Sourcery Academy has developed detailed curricula for each program, regularly updated to stay current with industry advancements.
    - **Curriculum Improvement**: The Academy actively seeks feedback from participants and industry experts to enhance its curriculum and ensure relevance.
3. **TechIn**:
    - **Programs Offered**: Vilnius Technology and Engineering Training Centre (TechIn) offers specialized training programs in Engineering and IT, including programming, computing, mechatronics and business management.

- **Start Date**: The Centre has a long time experience in training, which recently united two educational organisations.
- **Annual Participants**: TechIn already has approx. 7000 alumni in 5 years.
- **Program Duration**: Courses vary in length, ranging from 1 week to 1,5 years.
- **Learning Approach**: TechIn adopts a blended learning approach, combining theoretical instruction with hands-on projects to reinforce learning.
- **Focus Skills**: The programs focus on developing practical skills relevant to the IT industry, Engineering and entrepreneurship.
- **Curriculum Development**: TechIn offers 351 educational programmes crafted with input from industry professionals and academic experts to ensure relevance and quality.
- **Curriculum Improvement**: The Centre regularly evaluates and refines its curriculum based on participant feedback and emerging industry trends.

4. **Vilnius Coding School**:
    - **Programs Offered**: Vilnius Coding School offers training programs in IT and data sciece.
    - **Start Date**: The School initiated its training programs in 2015 and works internationally.
    - **Annual Participants**: Vilnius Coding School has 10 000 alumni or approx. 1400 participants per year, providing a focused and tailored learning experience.
    - **Program Duration**: Courses typically range from 1 to 6 months, allowing for comprehensive skill development.
    - **Learning Approach**: Vilnius Coding School prioritizes a practical, project-based learning approach, ensuring participants gain hands-on experience. Courses are provided both in Lithuanian and English and can be held face-to-face or online
    - **Focus Skills**: The programs focus on acquiring practical skills relevant to the IT sector.
    - **Curriculum Development**: The School has developed detailed curricula for each program, regularly updated to reflect industry best practices.
    - **Curriculum Improvement**: The School actively solicits feedback from participants and industry experts to continuously improve its curriculum and meet evolving industry needs. Additionally, they organise events and gatherings for the alumni to get feedback and to expand the network.

Analysis and Mapping of Existing Non-Formal Educational Curriculums of Vocational Education Programs

Name of the organisation	Education area	Field	Module	More information

Karaliaus Mindaugo profesinio mokymo centras	Business and administration	Wholesale and retail trade	Vocational training programme for e-sales consultant modular	https://www.aikos.smm.lt/Registrai/_layouts/15/Asw.Aikos.RegisterSearch/ObjectFormResult.aspx?o=PROG&f=Prog&key=31376
	Business and administration	Management and administration	Modular vocational training programme for sports administrators	https://www.aikos.smm.lt/Registrai/_layouts/15/Asw.Aikos.RegisterSearch/ObjectFormResult.aspx?o=PROG&f=Prog&key=31299
Kauno technologijų mokymo centras	Engineering and engineering professions	Electronics and automation	Repair and maintenance of drives and mechanisms in automated manufacturing systems	
	Information and communication technologies	Database and network design and administration	Periodic inspection and repair of computer equipment and components	
Klaipėdos Ernesto Galvanausko profesinio mokymo centras	Information and communication technologies	Computer applications and computer literacy	Projection drafting	
	Engineering and engineering professions	Electronics and automation	Repair and maintenance of gears and mechanisms for automated production systems	
Plungės technologijų ir verslo mokykla	Junior Systems Administrator	Junior Systems Administrator		
Kauno technologijų mokymo centras	Information and communication technologies	Database and network design and administration	Periodic inspection and repair of computer equipment and components	
Verslo ir svetingumo profesinės karjeros centras	Information and communication technologies	Computer applications and computer literacy	Modular vocational training programme for computer-aided design operators	https://www.aikos.smm.lt/Registrai/_layouts/15/Asw.Aikos.RegisterSearch/ObjectFormResult.aspx?o=PROG&f=Prog&key=41894
Vilniaus technologijų ir inžinerijos mokymo centras (TECHIN)	Office administration	Modular vocational training programme for office administrators		https://www.aikos.smm.lt/Registrai/_layouts/15/Asw.Aikos.RegisterSearch/ObjectFormResult.aspx?o=PROG&f=P

				rog&key=31394
	Information and communication technology	Database and network design and administration	Modular Vocational Training Programme for Junior Systems Administrator	https://www.aikos.smm.lt/Registrai/_layouts/15/Asw.Aikos.RegisterSearch/ObjectFormResult.aspx?o=PROG&f=Prog&key=31398
	Information and communication technology	Software, application development and analysis	Modular vocational training programme for Java Developer	https://www.aikos.smm.lt/Registrai/_layouts/15/Asw.Aikos.RegisterSearch/ObjectFormResult.aspx?o=PROG&f=Prog&key=30807
	Information and communication technology	Software, application development and analysis	Modular vocational training programme for JavaScript Developer	https://www.aikos.smm.lt/Registrai/_layouts/15/Asw.Aikos.RegisterSearch/ObjectFormResult.aspx?o=PROG&f=Prog&key=30865
	Information and communication technology	Software, application development and analysis	Modular vocational training programme for software tester	https://www.aikos.smm.lt/Registrai/_layouts/15/Asw.Aikos.RegisterSearch/ObjectFormResult.aspx?o=PROG&f=Prog&key=30895
Visagino technologijos ir verslo profesinio mokymo centras	Accounting	Modular vocational training programme for accountants		https://www.aikos.smm.lt/Registrai/_layouts/15/Asw.Aikos.RegisterSearch/ObjectFormResult.aspx?o=PROG&f=Prog&key=31052
	Engineering and engineering professions	Electronics and automation	Modular vocational training programme for mechatronics for automatic systems	https://www.aikos.smm.lt/Registrai/_layouts/15/Asw.Aikos.RegisterSearch/ObjectFormResult.aspx?o=PROG&f=P

				rog&key=31482
Klaipėdos Pauliaus Lindenau mokymo centras	Engineering and engineering professions	Electricity and energy	Modular vocational training programme for electricians	https://www.aikos.smm.lt/Registrai/_layouts/15/Asw.Aikos.RegisterSearch/ObjectFormResult.aspx?o=PROG&f=Prog&key=9964

Desk Research in Mapping the Existing Curriculums

Organization Name: Vilniaus technologijų ir inžinerijos mokymo centras (TECHIN)
Program Name: Modular Vocational Training Programme for Junior Systems Administrator
Field: Database and network design and administration
Program Summary: The modular vocational training program for junior systems administrators is designed to prepare a qualified junior systems administrator who would be able to maintain and administer information systems, manage information system issues, control information security, and handle changes in information and communication technologies.
Future Job Specifics. Individuals who acquire the junior systems administrator qualification will be able to work in business enterprises in the information and communication technology sector, as well as in the information technology departments of organizations in other sectors. Work is conducted individually and/or in a team, with the possibility of flexible work schedules and remote work. Typical work tools for a junior systems administrator include software and hardware, network management software and tools, diagnostic tools, testing tools, and communication equipment.
Important personal qualities for a junior systems administrator include diligence, responsibility, independence, and concentration.

Organization Name: Vilniaus technologijų ir inžinerijos mokymo centras (TECHIN)
Program Name: Modular vocational training programme for Java Developer
Field: Software, application development and analysis
Program Summary: The modular vocational training program for Java programmers is designed to prepare a qualified employee capable of designing and creating information systems, simple databases, managing the programming environment, and the development process. Individuals who obtain this qualification will be able to work as junior Java programmers in business enterprises in the information and communication technology sector, as well as in the information technology departments of organizations in other sectors. The program is intended for initial vocational training. It includes modules aimed at acquiring 3 competencies that constitute the qualification: Design and Development of Information Systems, Design and Development of Simple Databases, Management of the Programming Environment and the Development Process. There are also 2 elective modules: Application of Testing and User Behavior-Based Programming Methodologies, Development of Applied Java Applications Using the Spring Framework. The module programs include both theoretical and practical training. After completing this program, further studies can be pursued according to higher education programs in the field of computer science.

Organization Name: Vilniaus technologijų ir inžinerijos mokymo centras (TECHIN)
Program Name: Modular vocational training programme for software tester
Field: Software, application development and analysis
Program Summary: The modular vocational training program for software testers is designed to prepare a qualified employee capable of developing uncomplicated software, testing information systems, designing and creating simple databases, and managing the programming environment and development process. Individuals who obtain this qualification will be able to work as junior software testers in companies engaged in software development within the information and communication technology sector, or in the information technology departments of organizations in other sectors. The program is intended for initial vocational training. It includes modules with both theoretical and practical training. After completing this program, further education can be pursued in higher education computer science programs.

Organization Name: Vilniaus technologijų ir inžinerijos mokymo centras (TECHIN)
Program Name: Modular vocational training programme for JavaScript Developer
Field: Software, application development and analysis
Program Summary: The modular vocational training program for JavaScript programmers is designed to prepare a qualified employee capable of designing and creating information systems, simple databases, managing the JavaScript programming environment, and the development process. Individuals who acquire this qualification will be able to work as junior JavaScript programmers in business enterprises within the information and communication technology sector, as well as in the information technology departments of organizations in other sectors. The program includes both theoretical and practical training modules. Upon completion of this program, further studies can be pursued in higher education computer science programs.

Organization Name: Visagino technologijos ir verslo profesinio mokymo centras
Program Name: Accounting
Field: Modular vocational training programme for accountants
Program Summary: The modular vocational training program for accountants is designed to prepare a qualified accountant who would be capable of independently managing accounting records, handling asset documentation and registering it in accounting, managing liability documents and registering them in accounting, as well as compiling and accounting for income and expense data.

Organization Name: Karaliaus Mindaugo profesinio mokymo centras
Program Name: Business and administration
Field: Wholesale and retail trade
Program Summary: The modular vocational training program for e-commerce sales consultants is designed to prepare a qualified e-commerce sales consultant who would be capable of independently designing and creating e-commerce business models, purchasing, receiving, and storing goods, selling products and services in an electronic environment, and communicating with customers in an electronic environment.

Organization Name: Karaliaus Mindaugo profesinio mokymo centras
Program Name: Business and administration
Field: Management and administration
Program Summary: The modular vocational training program for sports organization activity administrators is designed to prepare a qualified sports organization activity administrator capable of independently managing the activities of a sports organization, selling its services, and managing

its inventory. The program includes both theoretical and practical training. During the assessment of the person's acquired competencies, the following competencies are evaluated: managing the daily activities of the sports organization, serving the organization's clients, implementing community physical activity promotion programs, projects, and sports events, selling the services and goods of the sports organization, processing payments for services and goods, preparing the inventory of the sports organization for physical activity activities, and maintaining the organization's inventory.

Organization Name: Verslo ir svetingumo profesinės karjeros centras
Program Name: Information and Communication Technologies
Field: Computer applications and computer literacy
Program Summary: The modular vocational training program for computer-aided design (CAD) operators is designed to prepare a qualified CAD operator capable of independently drawing two-dimensional and three-dimensional objects, designing computer graphics objects, and drawing engineering graphics objects.

Final Remarks

Overall, Lithuania's education system prioritizes both academic excellence and practical skills development, with a strong emphasis on preparing students for the challenges of the modern labour market. By offering a diverse range of formal, vocational, and non-formal education opportunities, Lithuania aims to foster lifelong learning and support individual and societal development.

Vocational Education and Training (VET) in Lithuania plays a vital role in preparing individuals for the workforce and fostering economic growth and innovation. The country boasts a diverse range of VET providers offering programs tailored to meet the needs of various industries, including IT, management, and STEM fields. These providers prioritize practical, hands-on learning experiences, ensuring that graduates are equipped with the skills and knowledge necessary to succeed in their chosen fields.

Moreover, Lithuania's VET system emphasizes collaboration between educational institutions, industry partners, and government agencies to ensure the relevance and quality of training programs. Accreditation by the Ministry of Education further underscores the credibility and standardization of these programs, enhancing their recognition both domestically and internationally.