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TORINO PROCESS 2014

UKRAINE

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PREFACE

Ukraine has conducted three rounds of self-assessment on national vocational education and training (VET) reform progress and policy within the Torino Process since 2010.

The elaboration of the 2004 national report has been a participatory process, characterised by the involvement of a great number of stakeholders under the coordination of the Ukrainian Ministry of Education and Sciences. Representatives of the Ministry of Economic Development and Trade, State Statistics Service, State Employment Service, Federation of Employers, National Academy of Pedagogical Sciences, National Academy of Sciences of Ukraine, trade unions, VET providers, and NGOs were among key participants to the process.

This report benefited from the participation of the Ukrainian regions – Vinnytsia, Dnipropetrovsk, Khmelnitsky, Sumy and the City of Kyiv which took part in the ETF pilot project 'The Torino Process – the regions' capacity development' in 2013-14.

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EXECUTIVE SUMMARY

Ukraine, in cooperation with the European Training Foundation, European Commission and other international institutions, actively applies the methodology of vocational education and training (VET) policy analysis based on self-assessment with the aim of improving the country's national VET system. Since 2010, Ukraine has participated in the Torino Process, a model that traces the dynamics of positive change in the following areas.

The elaboration of strategic guidelines for the development of the VET system

The elaboration of a national development strategy for the VET system has been a public policy priority since 2010, when the *Concept of the National Target Programme for VET development in Ukraine* was adopted and this was confirmed by the *National programme for VET development in Ukraine for 2011-2015* (Resolution of the Cabinet of Ministers of Ukraine of April 13, 2011). Currently, the strategic vision for the development of the VET system is represented by the *National strategy for education development in Ukraine for the period up to 2021* (2013) (approved by the Decree of 25 June 2013 of the President of Ukraine) and the *Draft concept of education development in Ukraine for the period 2015-2025.*

The legal and regulatory framework has been enhanced through the adoption of legislation with a direct impact on the development of the VET system in general and the functioning of VET schools in particular. The framework law "On Education" is being elaborated in parallel with the "On Vocational Education" Act designed to ensure equal access for all citizens to VET with due regard to labour market demands for skilled workers and mid-level professionals in order to integrate Ukraine into the international economic and educational space.

Improving effectiveness and efficiency in meeting the requirements of the economy and the labour market

There are positive dynamics as regards the optimisation of the state order[1] for training skilled workers in VET institutions. In 2012, the "On the Formation and Placement of the state order for Specialists, Academic Staff and Skilled Workers Training, Further Training and Retraining" Act was adopted. This act regulates the formation of the state order, taking into account the medium-term forecast for the demand for specialists and skilled workers in the labour market and the estimated average cost of training a skilled worker. It also sets forth the government financed enrolment.

Ukraine is actively engaged in promoting the **concept of entrepreneurship**. The "On Small and Medium Entrepreneurship Development and Support in Ukraine" Act, adopted in 2012, regulates government policies in the field of business activities and the development of entrepreneurial attitudes. The *National Programme for Small and Medium Entrepreneurship Development* was approved to create favourable conditions for small and medium enterprises. The strategic guideline for further development of entrepreneurship in Ukraine is the *Small Business Act for Europe* (SBA). Within the framework of the SBA, entrepreneurs are trained by the State Employment Centre, courses for business start-ups are run by the Ministry of Social Policy of Ukraine, and various other projects are implemented. The idea of entrepreneurial spirit has been incorporated into the educational standards, i.e. the *State Standards of Basic and Complete Secondary Education* (which is mandatory for all the VET students who complete upper secondary education), and into national standards for blue-collar occupations. Regional VET systems are also starting to provide entrepreneurial training for specialists.

[1] The term 'state order' is often used in post-soviet countries and refers to government-financed enrolment and investment in both VET and higher education.

Besides implementing national approaches relating to the formation of entrepreneurial competence, the regions devise and implement their own mechanisms for developing an entrepreneurial culture.

Improving effectiveness and efficiency in meeting the social needs

The "On Workforce Professional Development" Act adopted in 2012 obliges employers to provide advanced training for their employees at least once every five years. It also provides for the involvement of trade unions and employers' organisations in vocational education and the proficiency testing of workers.

The creation of an integrated system for recognising **non-formal learning outcomes** should also be considered as an achievement. After the adoption of the "On Workforce Professional Development" Act, secondary legislation defining the mechanism for validating informal and non-formal learning was adopted: the Resolution of the Cabinet of Ministers of Ukraine, "On the procedure for validation of blue-collar occupations non-formal and informal learning outcomes" № 340 dated 15.05.2013; the Order of the Ministry of Social Policy of Ukraine and the Ministry of Education and Science of Ukraine № 875/1776 dated 16.12.2013, "On approval of legal acts concerning validation of blue-collar occupations' non-formal and informal learning outcomes"; the Order of the Ministry of Social Policy of Ukraine № 886 dated 23.12.2013, "On approval of the procedure for issuance and forms of blue-collar occupations training certificates"; and the Order of the Ministry of Social Policy of Ukraine № 695 dated 26 September 2014, which defined the procedure for monitoring the knowledge and skills of workers enrolling for advanced training and retraining in VET institutions with a view to appropriately adapting training curricula and the length of training.

Improving the efficiency of the VET system

In recent years, there has been a **shift from an approach based on educational content to a competence-oriented approach**. National VET standards for specific occupations are now developed on the grounds of a competence-based approach and the emphasis has been transferred from the standardisation of the content of training for skilled workers to its outputs.

After the National Qualification Framework (NQF) was adopted by Resolution of the Cabinet of Ministers of Ukraine in 2011, the process of implementing this framework in the VET system got underway. The draft *Strategy for National Qualifications Framework development* has been developed with a view to ensuring consonance between the educational system and the labour market. *Methodology for the development of competence-based VET state standards for specific occupations* has been adopted. The *National Classifier of Ukraine "Classification of Occupations"* has been amended to introduce training for new universal occupations.

With a view to training a competitive workforce, progressive Training and Practical Centres dedicated to the introduction of innovative technologies are being set up with the assistance of social partners. Within the VET system, sectoral skills councils are an instrument for dividing responsibility and fostering communication and sharing between VET institutions and the business community.

In order to improve the professional development of VET teachers, the *Procedure on the Advanced Training of Pedagogical Workers in VET Institutions* (Instruction of the MES, 2014) was adopted. This procedure provides for mandatory advanced training for VET teachers at least once every five years at post-graduate education institutions, universities, VET training centres and in VET schools.

Challenges and prospects for development

A number of social and demographic trends (population decline and ageing, high levels of premature mortality among people of working age, increasing migratory outflow of workers with vocational and higher education) in conjunction with the ongoing restructuring of the economy, have lowered the prestige of working occupations and favoured the training of specialists with higher education. This trend is expected to result in labour shortages in years to come.

The VET system faces numerous serious internal challenges: the lack of funding for the system and specifically the shortage of funds earmarked for institutional development; the lack of scientifically-based methods for calculating the cost of training skilled workers with due consideration of the complexity, knowledge content and specific material consumption for occupations and the final outputs of the operation of VET institutions; and the inadequacy of the quality control system in VET at both central and regional levels.

Efforts to further the development of the VET system in Ukraine are expected to target the following areas:

- introduction of a scientifically-based system for forecasting labour market trends that can take into account the actual conditions and trends of the economy, and the creation of an efficient mechanisms to ensure cooperation between central and regional authorities and social partners with respect to publicly financed investments in VET and skills development;
- change of the management model based on the control of VET institutions' activities to a model based on quality enhancement and management;
- comprehensive financial provision for the VET system;
- social advertising and promotion of VET to enhance the prestige of blue-collar occupations and create a positive image of VET schools, including regional exhibitions of skilled worker occupations and activation of career guidance and counselling services for children and young people.

1. VISION FOR THE NATIONAL VET SYSTEM

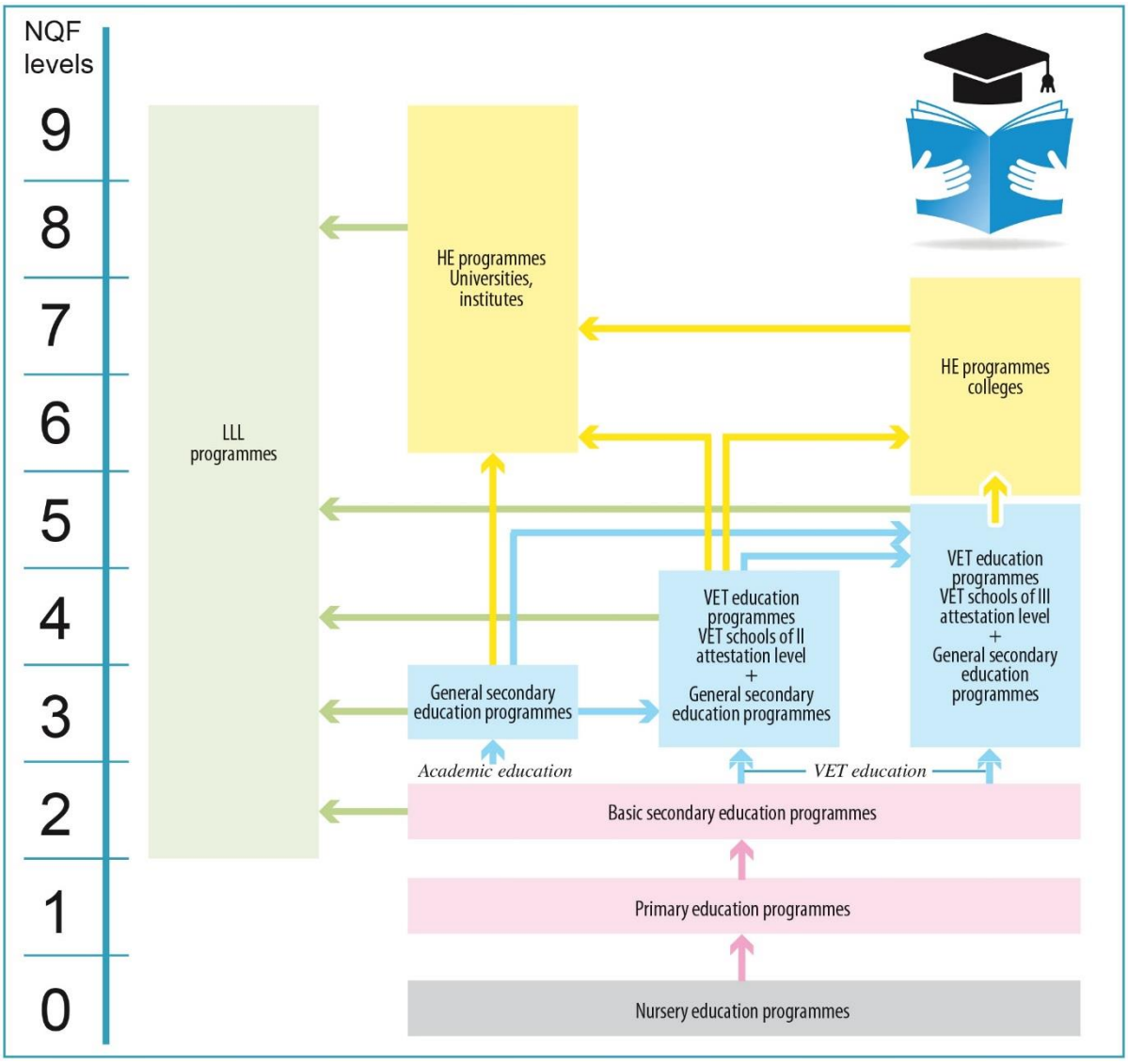
1.1 Introduction to the VET system

Ukraine's vocational education and training (VET) system comprises both initial vocational education and training (IVET) and continuing vocational education and training (CVET) components.

As of 1 January 2015, the VET network consisted of 945 institutions. Of these, 940 are under the jurisdiction of the Ministry of Education and Science (MES) with the following breakdown: 812 VET institutions; 33 VET institutions that are divisions of higher education institutions (HEIs); 19 educational institutions of other types which also provide VET; and 76 educational centres within the penitentiary system. In total, 113 VET institutions are located in the occupied territory of Donbas (52 in Donetsk and 61 in Lugansk). There are 314 000 VET students (18,400 of whom belong to vulnerable groups).

Diagram, 1 shows the VET structure in Ukraine's educational system in the correlation of Ukraine's NQF levels.

DIAGRAM 1. VET IN UKRAINE EDUCATION SYSTEM



The current VET system in Ukraine is structured into two levels according to the students' knowledge and skills: "Skilled Worker" (1-5 years of training); and "junior specialist" (2-3 years of training).

Before the "Higher Education" Act was passed in 2014, the "junior specialist" qualification was also awarded by the higher education system, particularly by institutions with I-II accreditation levels, that is, vocational colleges and institutes (technikums). The "Higher Education" Act (2014) made significant changes in the structure of post-secondary qualifications. It introduced a new Junior Bachelor's degree and a scientific PhD degree and eliminated four existing higher education accreditation levels.

The legal framework still requires further development, primarily the approval of the "On Education" Act (the Framework Law for Education in Ukraine) and the "On Vocational Education" Act. These bills will bring the VET system into line with the changes introduced by the "Higher Education" Act (2014).

1.2 Overview of the VET legal framework (primary law and subsidiary legislation)

Education in Ukraine is regulated by the Constitution of Ukraine (1996) and the "On Education" Act (1991). The main legislation specifically governing VET is the "On Vocational Education" Act (1998). The basic principles of the legislation regulating VET in Ukraine are equal access to VET education, equal rights to vocational choice, and the provision by the state of VET that responds to social and personal needs.

What should be noted is the positive dynamic in the development of the legal framework for VET indicated by the introduction in recent years of a number of important bills that have improved both the vocational training of the labour force (IVET) and their further training and retraining[2] (CVT). This new legislation has paid particular attention to the following aspects.

Decentralisation of VET

- On Amendments to Some Laws of Ukraine Concerning Vocational Education Governance Improvement" (2012). This act creates conditions for rapid managerial decision-making in vocational education and its financial provision, strengthening the role of local executive authorities and local self-government bodies in the training of the potential labour force taking into account regional skills needs.

- On Amendments to Certain Legislative Acts of Ukraine Regarding the Activities of the Ministry of Education and Science, Youth and Sports, the Ministry of Health of Ukraine, the Ministry of Energy and Coal Industry of Ukraine and Other Central Executive Authorities, Whose Activities are Directed and Coordinated by the Relevant Ministers, the State Committee for Television and Radio Broadcasting" (2012). This act regulates, in particular, the VET governance system, redefining the powers of the central executive body that ensures the formulation and implementation of VET state policy in line with decentralisation.

Further training and retraining

- On Workforce Professional Development" (2012). This act regulates issues relating to formal and non-formal vocational training provided directly by employers to employees either in the workplace or in vocational schools on a contractual basis.

[2] The terms "initial VET" and "continuing VET" are not used in Ukraine, where the terms "basic training" and "further training and retraining" are used. Therefore, hereinafter, we will use the terms "basic training" to refer to IVET, and "further training and retraining" to refer to CVT.

- On Employment" (2012). This act expands the opportunities for vocational guidance and vocational training of citizens, and includes incentives for local authorities to create jobs and support the most vulnerable groups. It defines ways to inspire people, including those who have qualified in areas that are not competitive in the labour market.

- On Employers' Organisations, Associations, their Rights and Activities Guarantees" (2012). This act regulates the role of employers and their organisations in the formation of the state order for skills training and the harmonisation of national vocational education standards. It also regulates students' remuneration during on-the-job training.

Response to labour market skills

- On the Formation and Placement of the State Order for Specialists, Academic Staff and Skilled Workers Training, Further Training and Retraining" (2012). This act regulates the formation of the state order taking into account the medium-term forecast for labour market skills needs and the estimated average cost of training a skilled worker. It also defines the principles for public procurement.

To implement the provisions of the recently approved legislation, the Cabinet of Ministers passed a series of resolutions that included the definition and implementation of the following, in particular: mechanisms for forecasting labour market demand for specialists and skilled workers in the medium term; procedures for the formation and placement of state order for staff training; methods for calculating the cost of training skilled workers; projects for student on-the-job training; plans for the employment of VET graduates trained under the state order. The following are the main resolutions passed.

Resolutions of the Cabinet: "On Amendments to the Procedure for On-the-job Training and Apprenticeship Workplaces Provision for VET Students" (2010); "On Approval of Employment Procedure for VET Graduates Trained under the state order" (2010); "On the National Qualifications Framework Approval" (2011); "On Amendments to the Regulations on Vocational Education" (2013); "On Amendments to the Procedure for On-the-job Training and Apprenticeship Workplace Provision for VET Students " (2013); "On Amendments to the Regulations on VET Educational Institutions" (2013).

Orders of the MES: "On Approval of the Regulations on Employee On-the-job Vocational Training" (a joint order of the Ministry of Labour and Social Policy of Ukraine and the MES of Ukraine, 2001, with amendments introduced in 2012); "On Approval of the Ukrainian VET Schools Websites Competition" (2012); "On Approval of the Regulations on Vocational Training Centre (sectoral focus) Under VET Institution" (2012); "On Approval of the National Qualifications Framework Implementation Action Plan" (2012) (joint order of the MES and the Ministry of Labour and Social Policy of Ukraine); "On Amendments to the Joint Order of the Ministry of Labour and Social Policy of Ukraine and the MES of Ukraine № 127/151 dated 26 March 2001 "On Approval of the Regulations on Employee On-the-job Vocational Training" (2012) (a joint order of the Ministry of Labour and Social Policy and the MES of Ukraine); "On Approval of Legal Acts on Non-formal Vocational Training Results Recognition" (a joint order of the MES of Ukraine and the Ministry of Social Policy of Ukraine, 2014); "On Approval of the Procedure for Further Training of VET Teachers " (2014).

In recent years Ukraine has made further progress, notably in developing new strategic documents:

- The 10-level NQF was adopted by the Decree of the Cabinet of Ministers in November 2011 and further implemented by a Joint Decree of the MES and the Ministry of Social Policy (# 488/225 dated 20 April, 2012). The adoption of the NFQ is a significant step towards transforming the Ukrainian education and training system and moving towards a system centred on learning outcomes and responding to labour market demands.

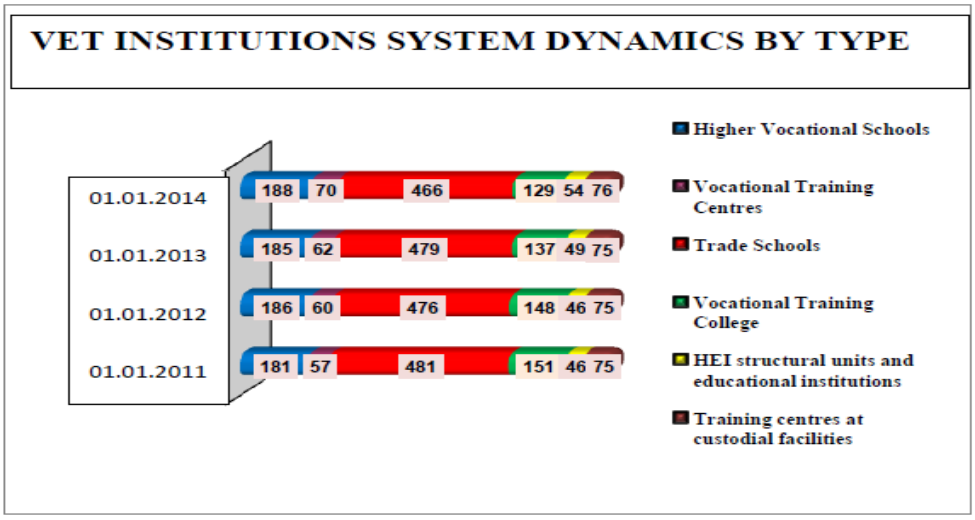
- The National Development Plan for Vocational Education and Training 2011-2015, which was adopted in 2011, instigated a number of important changes in the governance, financing and re-equipping of VET school facilities. However, implementation of this plan has been constrained by a lack of financial resources and limited technical capacities.
- It should be noted that the ratification in 2014 of the EU-Ukraine Association Agreement intensified the modernisation of the legal framework for Ukraine's education system. In particular, a new European-oriented package of legislation is being developed. In addition to the new "On Higher Education" Act (2014), a new "On Education" framework law is in preparation, which will lay down the fundamental principles governing the education system as a whole at all levels. In 2013, an expert group was created to draft another new act, "On Professional Education". This working group includes representatives of the VET and higher education departments of the MES, the National Academy of Pedagogical Sciences of Ukraine, the Federation of Employers of Ukraine, vocational schools and NGOs. The activities of the expert group are supported by the Twinning Project "Modernisation of Legislative Standards and Principles of Education and Training in Line with the European Union Policy on Lifelong Learning", which was launched in 2013.

The most significant trends and achievements are described below.

Reform

The country's network of VET schools has been undergoing reform in order to adapt VET to the changing needs of the labour market (Diagram 2).

DIAGRAM 2. FIGURE SHOWING THE DYNAMIC EVOLUTION OF VET SCHOOL TYPES BETWEEN 2011 AND 2014.



Student Population

Table 1 shows the change in the number of students enrolled in VET schools between 2009 and 2012.

TABLE 1. NUMBER OF STUDENTS ENROLLED IN VET INSTITUTIONS

2009	2010	2010 vs 2009 %	2011	2011 vs 2010 %	2012	2012 vs 2011 %	2013	2013 vs 2012 %	2013 vs 2009 %
249 872	282 914	113.2	241 682	85.4	241 834	100.1	225 201	93.1	90.1

Note: Percentage refers to change from one year to the next.

Source: SSS

One factor affecting this downward trend was nationwide depopulation (according to the statistics, the birth rate in Ukraine declined after independence: from 12.7 in 1990, to 9.6 in 1995, and 7.8 in 2000. Since 2002, there has been gradual increase in birth rate, which reached 11.4 in 2012. During the same period, the prestige of blue-collar occupations declined in favour of specialist university degrees. Table 3 shows the decline in the number of VET students per 10 000 population.

TABLE 2. NUMBER OF VET STUDENTS PER 10 000 POPULATION

2009	2010	2011	2012	2013
92	95	90	93	86

Source: SSS

Legal framework

The legal framework regulating the VET system and the education system as a whole has been modernised.

Content

There has been an emphasis on competence-based transformation of educational content. This has involved the development of national standards for competence-based vocational training characterised by a shift from standardising the content of training for skilled workers to standardising the outcomes. In total, 306 standards have been developed, agreed with the Federation of Employers of Ukraine and the Ministry of Social Policy, and approved by MES Resolutions (83 over the last two years). The following standards were formulated in 2013: 14 for the manufacturing sector, 2 for the agriculture and food processing sector, 5 for transport, 13 for trade and services, 5 for construction, 1 for communications, 2 for the mining industry, and 3 for the energy sector.

National Qualifications Framework

The NQF has been adopted and is in the process of being implemented. Work is underway on revising educational and qualification levels and the system for recognising and assessing vocational qualifications.

1.3 Vision for the VET system

Under the provisions of the “On Vocational Education” Act (1998), the focus of the long-term vision is to create a VET system capable of providing education for citizens that is in line with their callings, interests and abilities, as well as retraining and further training to meet the demand of the economy for skilled and competitive labour.

At this time, there is no separate document outlining the medium-term objectives for the VET system. Two documents (*the National strategy for education development in Ukraine for the period up to 2021 [2013]* and the *Draft concept of education development in Ukraine for the period of 2015-2025*) discuss the VET system in the context of the education system as a whole.

The National Strategy for Education Development in Ukraine for the period up to 2021, approved by the Decree of the President of Ukraine № 344/2013 dated 25 June 2013, provides for the following: development and implementation of vocational education national standards for occupations and cluster qualifications, including the update and approval of an optimised list of skilled occupations (reducing the overall number through integration);

- update and approval of the classifier of occupations (reducing the number of occupations through integration);
- optimisation of the network of VET schools of different types, vocational focus and types of ownership, taking into account population projections, regional specificities and labour market

needs, the increasing independence of schools and the creation of industrial and training complexes;

- improvement of the mechanism for state order formation of skills training to take into account the current needs of the economy and the regional labour markets as well as the demand from society;
- enhancing the training, retraining and further training of VET teachers;
- introduction of a two-level training in vocational schools: level one, Skilled Worker, and level two, Junior Specialist (Master, Technician).

T*he Draft concept of education development in Ukraine for the period 2015-2025* provides for the following developments in the VET sector:

- approval of the "On Vocational Education" Act, which will create two levels: "Skilled Worker" and "Junior Specialist" (Master, Technician);
- definition of several types of vocational education (at schools having different forms of ownership, in the workplace, under the guidance of a tutor), and the introduction of a dual education system;
- expansion of the independent right of VET to develop educational programmes, select educational content and decide on the structure of training programmes;
- the creation, in association with employers, of VET regional development programmes that will take the regions' development prospects into account.

The development targets for the VET system outlined in the Strategy have been formulated taking into account the needs of the national economy in consensus with employers and civil society. They involve optimising the VET school network taking into account population projections, regional specificities and labour market needs. They also require improvement of the enrolment planning mechanism for skills training to meet the current needs of the economy and regional labour markets in order to further the country's economic development. One shortcoming of this strategy is that it does not pay enough attention to the needs of sectors that are priority for the country's economic growth.

The key function of the VET system is to address the economy's fast changing demand for workers with appropriate vocational qualifications and to respond rapidly to new developments in the labour market, with a view to meeting socioeconomic challenges and achieving sustainable development goals. The objective of refocusing the Ukrainian education system on sustainable development targets is stated in the *National Strategy for Education Development in Ukraine for the period up to 2021* (approved by the Decree of the President of Ukraine № 344/2013 dated 25.06.2013).

Both the long-term development of the VET system set out in the "On Vocational Education" Act and the development targets fixed by the *National Strategy for Education Development in Ukraine for the period up to 2021* focus on developing human capital in a number of ways: modernising educational content and the VET network of educational institutions; further training of the VET teaching body; and achieving greater interaction and ensuring closer links between the VET system and the labour market. It is hoped that the implementation of the strategies will make it possible to align the occupational and qualification structure of skills training with the needs of economic development, and to improve the quality and competitiveness of the workforce and promote employment.

The strategic targets for VET in Ukraine are set forth in the following strategy documents:

- the *National Education Development Strategy for the period up to 2021 (2013)*, which fosters interrelation between the different sectors of the education system;

- a number of national strategies, in particular, the *State Regional Development Strategy for the period up to 2020* (approved by the Decree of the Cabinet of Ministers of Ukraine № 385 dated 08.06.2014), and the "Ukraine 2020" presidential reform programme"".

It should be noted, however, that the VET system development targets outlined in the *National Education Development Strategy for the period up to 2021* (2013) will be modified to take into account the country's changed economic and social situation after the 2013-2014 political crises and external military aggression. They will also be adjusted to reflect the new legislation, specifically the "On Higher Education" Act (2014) and new decentralisation legislation that will change the future evolution of the labour market.

The strategic prospects for VET in Ukraine stated by the government represent the joint view of all the stakeholders since the practice of the MES is to agree draft legislation and strategic documents with other ministries and social partners, primarily the Federation of Employers of Ukraine and the Federation of Trade Unions of Ukraine. Typically, the proposed plan of action also reflects the interests of each group and is drafted by consensus.

One important priority for Ukraine is to elaborate a complete and comprehensive overview of VET system development encompassing both the vocational education sector (IVET) and further training (CVT). The ultimate aim is to achieve a system that would more effectively address the needs of the economy and the labour market. The other major challenge is still the gap in the funding of both VET and the higher education sector.

1.4 Capacity for innovation and change

As of September 2014), education in Ukraine's VET schools was provided by 47 472 teachers, including senior instructors of vocational training (45%), teachers of general subjects (21%), teachers of vocational subjects (14%), directors (2%), deputy directors (4.5%), as well as practical psychologists and social workers.

The teaching body is characterised by a high-level training and continuing professional development:

- one in four teachers has achieved the fourth grade or higher in a blue-collar occupation;
- one in five teachers is skilled in two or more occupations and has received adequate training in both the psychological and pedagogical aspects of education;
- 70% of VET teachers hold a Bachelor or Master Degree, 30% are qualified Junior Specialists, and 90% have information and communications technology (ICT) skills.

Between 2012 and 2014, the number of VET teachers with higher education grew by 8%, the number of those holding a degree in pedagogy by 10%, and the number of those with both a masters and a degree in pedagogy by 12%.

In recent years, one of the chief problems hindering innovative development in Ukraine's VET system has been the lack of funds in spite of increases in funding from both public and local budgets. In practice, the existing legal provisions regarding financial support for VET schools (for renovation of equipment and premises) were not fully implemented and funding was only available for items such as wages (58% of total funding) and utilities (10%). Lack of funds for institutional development and the implementation of comprehensive reforms has led to a decline in the quality and attractiveness of the system. As a result, the number of vocational school students per 10 000 population has decreased by 13.1% (from 107 to 93 persons) between 2000 and 2012 according to data from the State Statistics Service of Ukraine (SSS).

The principle mechanism for promoting the professional development of the teaching staff and improvements in the quality of VET institutions are financial incentives, in particular those provided for in the Resolution of the Cabinet of Ministers of Ukraine № 373 dated 23 March 2011 “On salary increments for teachers of pre-school institutions, out-of-school education facilities, general education institutions, vocational schools, higher institutions of I-II accreditation level, and other institutions regardless of their affiliation”, which assigns salary increments for high quality work, honorary titles, advanced achievements, and years of service.

Under Ukrainian law, the principle actors involved in formulating the future of the VET system and implementing the changes required in this area are public authorities, who are responsible for implementing the approved strategic plans. In the new political and economic situation, the government is ready to take responsibility for the implementation of strategic benchmarks and leads this effort (evaluation - 4 points). The main obstacle to implementation of these reforms is the lack of funds.

The VET system uses statistical data produced by the following public authorities: the SSS (http://www.ukrstat.gov.ua/), regional statistics offices, the State Employment Service of Ukraine (http://www.dcz.gov.ua/control/uk/index) and its regional units (employment centres), the MES (http://www.mon.gov.ua/ua/activity/education/57/; https://proftekhosvita.org.ua/uk/), regional education departments and teacher resource centres, and other ministries. These sources provide reliable information, which is available on the websites of the authorities in question.

The strong point of the current VET system is the presence of an effective tool for the collection, processing and use of relevant information, namely, the creation of Information and Analysis Centres in VET teacher resource centres in many regions of Ukraine. The duties of the Information and Analysis Centres include the monitoring and surveillance of several important aspects, such as regional labour market demand for skilled workers, eventual job placement of VET graduates, employer satisfaction with the occupational skills of VET graduates, labour market forecasts in terms of labour force and manpower resources utilisation, etc. The results of this surveillance are used to inform decisions.

Another challenge in this area is the creation of a platform to facilitate communication between employers and the VET system and ensure that available vacancies and trends in the labour market are closely monitored.

1.5 Drivers of innovation and change

The overall research capacity is capable of successfully addressing VET development issues.

- The MES operates a VET Content Department as part of its Institute of Innovative Technologies and Education Content. The mission of this department is to provide methodological and information support to underpin the implementation of national VET policy.
- The regional VET teacher resource centres make a considerable contribution to the development of the VET sector. In addition to providing methodological support for VET institutions, the centres carry out analytical and surveillance studies to inform regional VET policy and facilitate planning with due regard to the regional labour market’s demand for skills.
- The National Academy of Pedagogical Sciences of Ukraine (the Department of Vocational Education and Adult Education), operates an Institute of Vocational Education—the Lviv Vocational Education Research and Practice Centre. This centre is responsible, among other tasks, for the provision of methodological support for VET state policy implementation, the introduction of innovative training methods and technologies, and research on VET education.

The following problems have been identified in this area: poor coordination between science and practice, that is, between the VET school network and the labour market; weak focus on the national system for monitoring trends and forecasting needs in VET and on bringing this system into line with current trends in European education; and inadequate monitoring of the implementation of the results of scientific research.

A network of training and practice centres is being developed in vocational schools to provide training in advanced manufacturing technologies. There are 84 training and practice centres in Ukraine today: 44 (67% of the total) in the construction industry, 13 (12%) in the service sector, 7 (10%) in agriculture, 5 (7%) in industry, and 3 (4%) in machine construction.

A database has been created to foster the dissemination throughout the regions of innovative solutions developed by these centres. To promote this work at the national level, the All-Ukrainian competition of innovative technologies in VET was held for the first time in 2013 (Order of the MES of Ukraine № 471 dated 26.06.2013).

Another example of innovation in the Ukrainian VET system is the research and experimental work being carried out in 19 vocational schools in areas such as education management, modular training, information technology, continuing teacher training, social partnerships, social inclusion, and state vocational education standards. The following are just some examples.

- Experimental work on "Research and methodological support for national VET competence-based standards development for integrated occupations in the automotive and electric power industries" is underway in the Interregional Higher Vocational School of Motor Transport and Construction Mechanical Means (the city of Kyiv), a state educational institution. The result of this work will be the introduction of new national standards ("Motor Service Technician", "Vehicles Electronic Equipment Troubleshooting and Tuning Foreman", "Solar Panels Maintenance Foreman") into the training and manufacturing processes, the creation of e-textbooks for on-the-job training, and special technology items in the area of car servicing and electric power based on the European experience with the use of alternative energy sources in the economy.
- The All-Ukrainian experiment was conducted at the Interregional Higher Vocational School of Printing and Information Technology—a state educational institution in Dnepropetrovsk. This work resulted in the update of training content for future typographers, the uniquely designed optional course "Innovative production technologies in the modern printing company", a published manual entitled "Innovative production technologies in the training of printing processes in vocational schools", and a modern training and practice centre specialising in modern printing materials.

The achievements of experimental schools are presented at Ukrainian conferences and seminars and disseminated through a number of different channels: the website of the Institute of Innovative Technologies and Education Content of the MES (http://iitzo.gov.ua/); the Vocational Education web portal (http://proftekhosvita.org.ua/uk/); a monthly online magazine called *Innovative Technologies in Vocational Education*; and through the libraries of VET schools.

Information on international experience and best practice is communicated in several ways. Firstly, the national and regional projects undertaken within the framework of cooperation with international organisations (ETF, the European Commission, the Canadian International Development Agency [CIDA], etc.) play an important role in informing VET professionals about innovation.

- Ukraine's participation in the Torino Process since 2010 has contributed to the introduction of innovative approaches into national VET system analysis.
- Ukraine's participation in the Twinning Project "Modernisation of Legislative Standards and Principles of Education and Training in Line with the European Union Policy on Lifelong Learning"

(2013-2014) has helped to strengthen the MES capacity for efficient use of the NQF and the development of the VET quality assurance system.

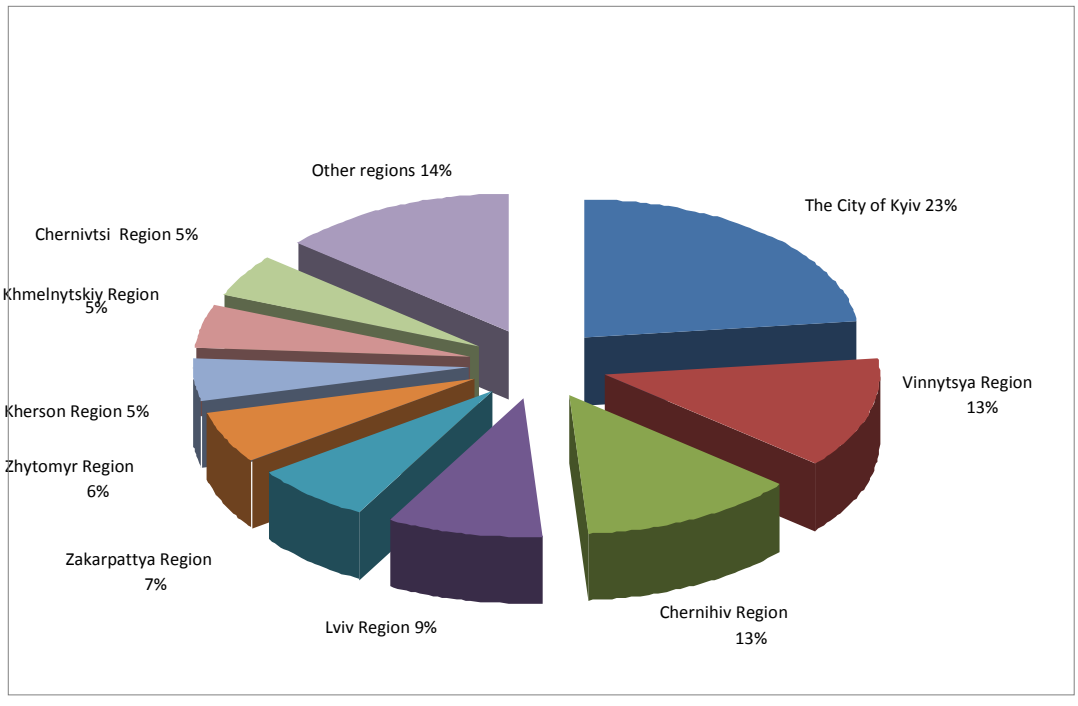
The implementation of regional pilot projects has had a very positive effect.

- Five regions (Vinnytsia, Dnipropetrovsk, Sumy, Khmelnytsky, and the City of Kyiv) have gained valuable experience of the Torino Process analytical framework through their participation in the ETF Project Regional Capacity Building. The Torino Process - Regional Level (2013-2014).
- A pilot ETF project "Improving the VET System through Skills Anticipation and Adjustment, Social Partnership and Better Use of Resources (2011-2013)" was implemented in Dnipropetrovsk Region to develop a procedure for the modernisation of the regional network of VET schools. This project analysed the needs of the regional economy as compared to the scope and structure of the skills imparted in vocational schools using a model developed by international experts. The results have encouraged the optimisation of the VET school network in the region.
- The CIDA "Skills for Employment" project (2012-2016) implemented in Kyiv, Lviv and Ivano-Frankivsk improved the responsiveness of training to labour market needs and resulted in higher employment and self-employment rates among VET graduates.

Another aspect of international best practice has been cooperation between the Vocational Education Department of the MES and companies, such as Henkel Bautechnik Ukraine, Knauf, Bosch Tools, TRIORA, NIBCO, Herz Ukraine, KAN Sp., and KORADO. For example, social partnerships with KERNEL and SOCAR Energy Ukraine resulted in plans to create specialised training centres within vocational schools.

Direct cooperation with foreign partners is a great incentive for the vocational schools that have partners in countries such as Poland, Germany, France, Belarus, Russia, the USA, or Slovakia. Diagram 3 shows the regional breakdown of involvement in international cooperation programmes.

DIAGRAM 3. REGIONAL BREAKDOWN OF VET SCHOOLS INVOLVED IN INTERNATIONAL COOPERATION



Source: MES

1.6 Action and assessment of progress since 2010

The urgency and timeliness of the *National Strategy for Education Development in Ukraine for the period up to 2021* in terms of VET system development can be graded 5. The feasibility of accomplishing the targets defined will depend on the socioeconomic and political situation in the country and under present conditions can be graded 3 (in the context of the military conflict in the east of the country).

An Action Plan for implementation of the *National Education Development Strategy for the period up to 2021* has been drawn up (enacted by the Decree of the Cabinet of Ministers № 686 dated 04.09.2013 and the Order of the MES № 44-P dated 04.12.2013). The plan defines the stages of implementation, specifies the time line, and assigns responsibilities. The plan for VET is to draft a new bill, the "On Professional (VET) Education" Act, that will adopt the state VET standard; to intensify career guidance among youth, to update state standards for VET in specific occupations, etc.

The distribution of responsibilities on the implementation of VET state policy at both central and regional levels is specified in the "On Vocational Education" Act (1998) and other bills and regulations.

Implementation of the strategy started following approval of the plan by Presidential Decree № 344/2013 dated 25 June 2013.

Under Ukrainian law, a budget must be allocated for the implementation of strategy documents of this type.

In the past year, implementation of the Action Plan has started:

- a Procedure for the further training of VET teachers (2014) has been developed and approved

Work is underway on the following:

- modernisation of the vocational network by linking VET schools to more powerful educational institutions and modifying the type of school according to the demographic, economic and social characteristics of the regions and the needs of citizens;
- adapting and reorienting vocational schools to meet the needs of the national economy;
- setting up Training and Practical Centres in vocational schools to achieve greater focus on training in innovative production technologies;
- training, retraining and advanced training of VET teachers and upgrading of curricula;
- providing VET schools with textbooks, teaching aids and courseware developed in accordance with national standards; training in the use of electronic educational resources; introduction of distance learning;
- implementation of software tools for forecasting socioeconomic indicators relevant to the education system;
- implementing international projects, in particular the EU Twinning Project "Modernisation of Legislative Standards and Principles of Education and Training in Line with the European Union Policy on Lifelong Learning", and European Training Foundation projects, particularly, the Torino Process.

To ensure effective implementation of the Strategy, the MES is required to make a quarterly report to the Cabinet of Ministers on the progress achieved in the implementation of the Action Plan. However,

in light of the new political and economic conditions, a new strategic, legislative and regulatory base is being drafted.

The Action Plan for the implementation of the *National Education Development Strategy for the period up to 2021* contributes to the staged implementation of the Plan. At present, progress on implementation can be graded as 4 because the main obstacle is the challenging financial and economic situation currently affecting the country.

2. EFFECTIVENESS AND EFFICIENCY IN ADDRESSING ECONOMIC AND LABOUR MARKET DEMAND

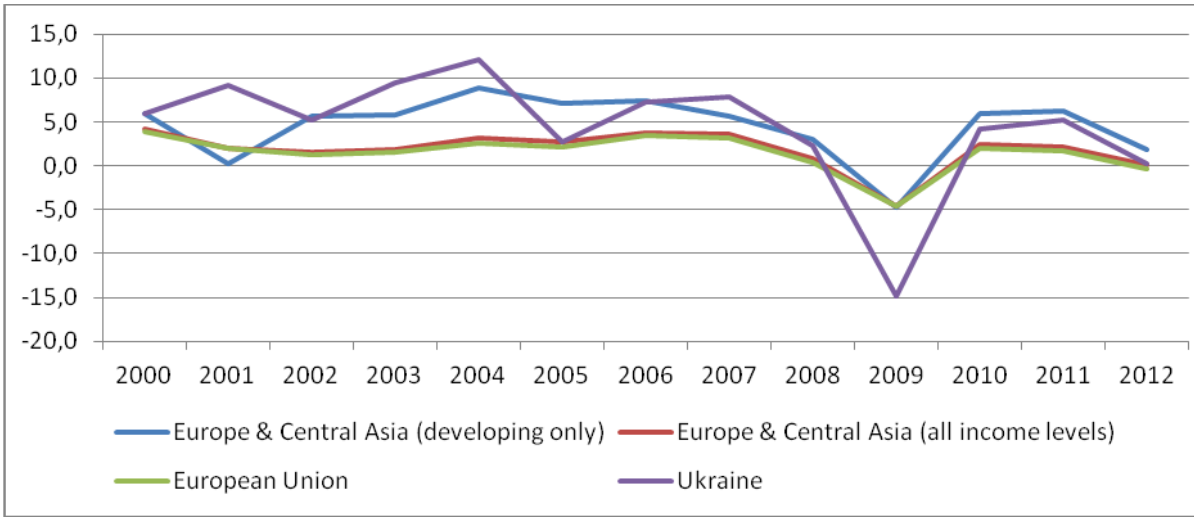
2.1 Economic and labour market factors that shape demand for skills

In the first decade after independence, Ukraine experienced a significant economic decline that resulted in a drop in GDP, productivity and real wages. The country, which has one of the largest populations in the world, also saw a marked reduction in population (8.3%) between 1990 and 2009 as a result of a combination of low birth rate, high death rate, an ageing population and labour migration. However, unemployment rates remained steady around the 8.4% to 8.6% level, primarily due to the high level of labour hoarding, a phenomenon that explains the subsequent jobless growth when real GDP grew at an annual average rate of 7% (2000-2008).

The economy was severely affected by the global financial crisis (Diagram 3). In 2009, the GDP fell by 15% with respect to the previous year. This severe economic decline can also be explained by Ukraine's dependence on energy imports, the lack of significant structural reforms and a high level of corruption, a combination of factors that has made the Ukrainian economy vulnerable to external shocks (World Bank, 2014a).

The crisis had a particularly severe impact on important economic sectors, such as the metal and chemical industries and the construction sector. More dynamic growth sectors—for example, real estate, business services, hospitality and catering—suffered less. In spite of the crisis, the reduction in the number of jobs has not been significant, particularly in the service sector, where there is a high level of informal employment. The Ministry of Economy and Trade estimated that the shadow economy in Ukraine was about 34% of GDP in 2011[3]. The estimates of international expert are even higher at 45-50%.

DIAGRAM 4. ANNUAL GDP GROWTH



Source: The World Bank (2014b), World development indicators

[3] http://www.newsru.ua/finance/23nov2012/tenn_2.html

The political unrest and conflict in eastern Ukraine in 2014 have seriously exacerbated the negative economic situation. According to international and expert estimates, the Ukrainian GDP will contract by 7% to 9% in 2014 and the budget deficit is expected to be around -10% by the end of the year. Figures for 2014 indicate a deteriorating trend in the real economy: industrial production fell by 5.8% in the first half of the year, 12.1% by July, and 20.1% by August; wholesale trade fell by 13.8% (January-August), transportation by 4.1%, and construction by 15.6%; the only growth sector is agriculture, which increased by 6.3% (World Bank, 2014). Ukraine faces a huge challenge, namely, covering the cost of the military operations in eastern regions and the costs of repairing significant infrastructural damage. The situation has been aggravated by a fall in exports in the metal and chemical industries and shrinking public and private consumption. It is probable that the deteriorating economic situation will have an impact on both employment and the education sector.

Table 3 shows a breakdown of GDP by sector. Agriculture has been able to improve its competitiveness and the service sector is growing steadily, whereas the industrial sector (particularly the metal and chemical industries) has been declining due to external shocks.

TABLE 3. GDP BY MAIN SECTORS (% OF TOTAL VALUE ADDED)

Sector	2006	2007	2008	2009	2010	2011	2012	2013
Agriculture	8.7	7.5	7.9	8.3	8.3	9.9	9.3	10.4
Industry	36.1	36.7	33.6	29.6	31.3	30.0	29.2	26.9
Services	55.2	55.8	58.5	62.1	60.4	60.1	61.5	62.6
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

The key economic sectors are industry (the chemical industry and the processing industry, in particular metallurgy, which is the country's dominant industry), transport, agriculture, retail trade, telecommunications, construction and tourism. With about half the GDP generated by the industrial sector, Ukraine's economy is at the industrial stage of development, although with quite significant regional variations; for instance, intense growth in the service sector can be observed in some regions.

The state order for skills training is a government tool put in place to ensure that the economy and labour market demand for skills is satisfied; in addition, at local level another mechanism is the creation of bilateral agreements between educational providers and enterprises or employers.

The economies of the different regions of Ukraine differ in size and characteristics. According to the SSS, the GRP of the capital of Ukraine (Kyiv) is almost 10 times larger than that of the Sumy and Khmelnitsky regions. The GRP of Dnipropetrovsk Region is also large (as of 2012). The regional economies also differ in structure, with industrial production predominating in the east of the country and tourism and services in the west.

One cause for concern in the Ukrainian economy is the shadow economy and informal employment. According to the SSS, the Ministry of Economic Development and Trade and international experts, the shadow economy may be equivalent to between 20% and 40% of GDP (Bochi, 2014). Other problems include the low share of employment attributable to small and medium-sized enterprises (SMEs) and the high proportion of available jobs are for low-skilled workers.

The following are some of the most significant social and demographic trends.

- *Demographic decline*. The population of Ukraine was 45.96 million people in 2010, declining to 45.78 million in 2011, 45.63 million in 2012, 45.55 million in 2013, and 45.43 million as of 1 January 2014. In most regions, the decline was due to a natural decrease and the effects of migration. The only region showing a positive trend was the city of Kyiv, which was characterised

by natural growth and positive net migration. The declining population has led to a further reduction in the country's potential labour force reproduction base.

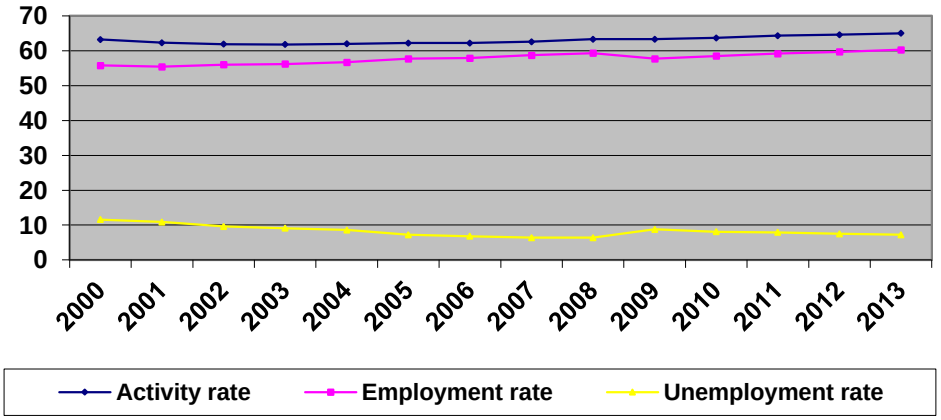
- *Ageing population.* World Bank data shows that Ukraine has one of the most rapidly ageing populations in Europe, a trend that increases the demographic burden on the working cohort. For example, in Vinnytsya, the region with the highest demographic burden on the population aged 15-64 years in Ukraine, the ratio in 2013 was 475 people per 1 000 population, while the average ratio for the country was 419 per 1 000 population. If current trends persist in the Dnipropetrovsk Region, the working-age population is projected to decline by 30-32% by 2020, a trend that will have a critical impact on the reproduction of the labour force.
- *High levels of premature mortality*, most of which (73%) affects the working-age population, with the most significant statistic being the high death rate among men of working-age.
- *Migration*. The increased outflow of wage workers with vocational and complete higher education to neighbouring countries and beyond is jeopardising full staffing of domestic production with skilled workers.

Ukraine's accession to the World Trade Organisation (WTO) in 2008 had significant impact on the national economy and led to its adaptation to WTO requirements. During the two years following the accession, seven laws and several Decrees of the Cabinet of Ministers were adopted, providing the impetus for increased efficiency in the structuring of economic processes and greater competitiveness among domestic producers.

In 2014, the EU-Ukraine Association Agreement was signed. This treaty provides for economic and sectoral cooperation across a number of areas and sectors, including energy, transport, manufacturing, agriculture, tourism, services, and environmental protection.

In spite of the declining economy, employment remains relatively steady. The share of employment in industry has decreased slightly, whereas employment in the agriculture sector has been recovering. The service sector has remained stable, an indication that economically active persons have managed to find paid work in the informal economy. This phenomenon explains why employment levels have remained relatively stable despite the crisis, with no significant increase in unemployment (Diagram 5). The Ukrainian labour market has also adapted to economic and financial shocks by using wage arrears and compulsory 'administrative leave', two mechanisms that lower unemployment statistics. It is estimated that the number of people in precarious jobs is growing.

DIAGRAM 5. ACTIVITY RATE, EMPLOYMENT RATE AND UNEMPLOYMENT RATE



In 2012, the number of employed people in Ukraine was around 20 million. Almost one-quarter worked in the trade, hotels and restaurants sector. Between 2000 and 2012 employment in the industrial sector decreased in absolute terms. The agricultural sector also saw a downward trend until 2010, but in 2012 experienced a slight recovery. This upturn could be explained by the net inflow of workers from other sectors due to the economic crisis, but the improved competitiveness of the sector may also be a contributing factor.

Before the economic crisis, the financial sector, in which the number of those employed more than doubled between 2000 and 2008, was the most dynamic sector; however, it only accounts for a small fraction of the labour force (under 2%). Trade and business services also experienced growth, even during the crisis, with a 9% increase between 2000 and 2012.

TABLE 4: EMPLOYMENT BY ECONOMIC ACTIVITY

	2000 (000s)	2008 (000s)	2012 (000s)	2000 (%)	2008 (%)	2012 (%)
Total	20 175	209 72.3	203 54.3	100	100	100
Agriculture, hunting and forestry, and fishing	4 367	33 22.1	35 06.7	22	16	17
Industry	4 598.3	38 71.4	33 03.6	23	18	16
Construction	903.6	10 43.4	902.2	4	5	4
Trade; repair of motor vehicles, household appliances and personal demand items. Hotels and restaurants	3 121.3	4 744.4	4 894.1	15	23	24
Transport and communications	1355	1 465.8	1 361.3	7	7	7
Financial activity	166.1	394.9	324.3	1	2	2
Real estate transactions, renting, engineering and provision of services to business	815.9	1 150.4	1 202.5	4	5	6
Public administration	1 198.6	1 067.5	1 079.4	6	5	5
Education	1 609.7	1 702.4	1 672.9	8	8	8
Health care and provision of social aid	1 379.6	1 369.9	1309.9	7	7	6
Other types of economic activity	659.9	840.1	797.4	3	4	4

Source: SSS (2014).

Notwithstanding the sectoral trends reported above, the occupational structure of the labour market has remained relatively stable (Diagram 6). Almost 25% of the employed population has been working in jobs typically requiring only primary education (ISCO 1), some 40% in jobs requiring secondary or post-secondary non-tertiary education (ISCO 2-3), and about 35% in jobs requiring tertiary education (ISCO 4).

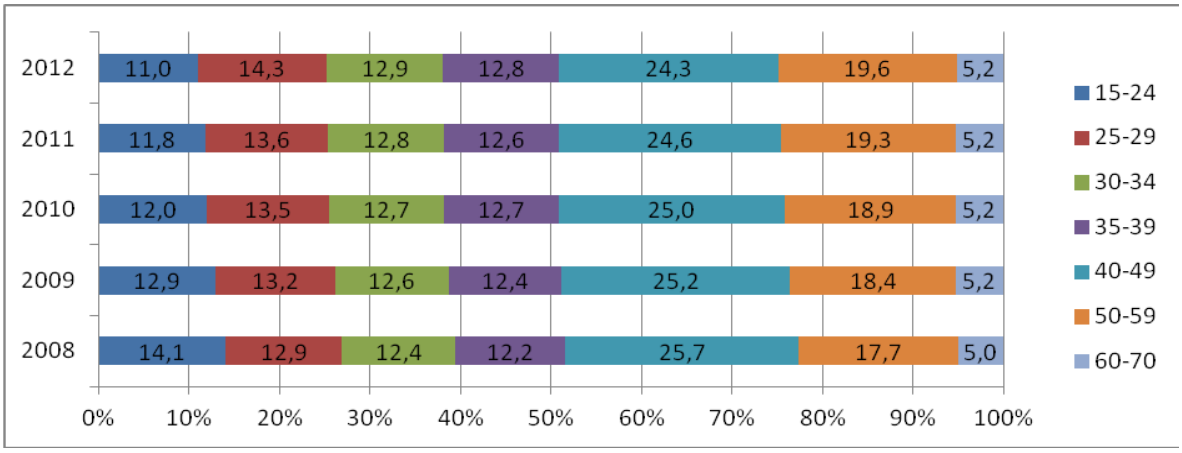
DIAGRAM 6: EMPLOYMENT BY OCCUPATION IN THE 15-70 AGE GROUP (%)

Source: SSS, 2009; SSS, 2010; SSS, 2012; SSS, 2013.

Analysis of data on job vacancies and registered unemployed provided by the State Employment Service for the period of 2000-2012 reveals that craft and related trade workers are still one of the most vulnerable occupational groups in the labour market. In the same period the share of vacancies for elementary occupations has increased from 13.6% to 15.2%, an indication that the labour market in Ukraine still reflects an industrial-oriented model. However, the proportion of vacancies requiring a high level of manual skills is significantly higher than the proportion of unemployed in this category, indicating a shortage of high-skilled manual workers. The relatively large proportion of low-skilled workers who are unemployed contrasts with the number of companies seeking high-skilled workers.

The labour force in Ukraine is ageing (Diagram 7). The share of the labour force in the age group 15-24 decreased by around 3% between 2008 and 2012 while the share aged between 50 and 59 years rose by almost 2% during the same period.

DIAGRAM 7: LABOUR FORCE (EMPLOYED+UNEMPLOYED) BY AGE (%) IN 2008-2012



Source: SSS, 2009; SSS, 2010; SSS, 2012; SSS, 2013.

Unemployment by sex and educational attainments shows that people with more education have been better able to recover from unemployment and find work and that women are doing slightly better than men in this respect.

Youth unemployment has remained at around 17% to 18% since 2009.

TABLE 5. YOUTH UNEMPLOYMENT RATES BY SEX (%)

Youth unemployment rate (15-24)	2009	2010	2011	2012	2013
Total	17.8	17.4	18.6	17.3	17.4
Male	19.8	17.8	18.6	18.1	18.2
Female	15.1	16.7	18.7	16.1	16.3

Source: SSS

TABLE 6: UNEMPLOYED REGISTERED IN PUBLIC EMPLOYMENT SERVICE (PES) BY OCCUPATION, 2000-2012

	2000 (000s)	2004 (000s)	2007 (000s)	2008 (000s)	2009 (000s)	2010 (000s)	2011 (000s)	2012 (000s)
Legislators, senior officials and managers	5.2	5.6	7.2	7.6	9.5	9.1	9.9	10.1
Professionals	7.7	5.2	5.8	6.2	8.3	8.5	9.1	8.7
Technicians and associate professionals	13.3	9.2	8.4	8.2	9.5	9.4	9.5	9.6
Clerks	5.4	5.1	5.5	5.3	5.7	5.6	5.5	5.5
Service workers and shop and market sales workers	12.2	13.9	13.1	12.2	12.2	13.6	14.2	14.5
Skilled agricultural and fishery workers	3.0	4.9	5.4	4.8	3.6	4.0	4.1	3.9
Craft and related trade workers	18.0	10.9	10.4	13.3	14.3	12.4	11.4	11.5
Plant and machine operators and assemblers	18.5	15.6	18.2	20.2	19.7	19.0	18.7	19.3
Elementary occupations	16.6	29.6	25.9	22.2	17.2	18.3	17.6	17.0

Source: State Employment Centre

According to the World Bank, the major challenges affecting labour market development in Ukraine are a low level of labour mobility, high levels of informal employment, and a mismatch between employees' occupational skills and the requirements of employers.

TABLE 7. PEOPLE EMPLOYED IN THE INFORMAL ECONOMY (% OF TOTAL EMPLOYED)

2010	2011	2012	2013
22.9%	23.1%	22.9%	23.6%

Source: SSS

The transition from school to work is in need of urgent attention. Some 50% of school graduates do not work in the field of their vocational studies, and one year after completing an IVET course 80% of graduates are not working in the occupational area in which they have qualified (ETF Skills Strategy Note, 2012). This mismatch will lead to labour shortages in the very near future. The high proportion of students choosing to enter higher education (80% of all graduates) and the projected growth of industrial production in the longer term (as compared to a significant reduction over the coming 2 to 3 years) is likely to lead to increased demand for skilled workers in the main blue-collar occupations.

In order to meet labour market needs, comprehensive strategies for regional development should be designed and implemented. The objective of such strategies must be to promote economic competitiveness, improve quality of life and introduce innovative technologies. The availability of highly skilled workers is indispensable for the achievement of these goals. The common focus of the regions in this context is to do the following:

- improve the mechanism for identifying labour market demand for skilled workers;
- introduce a mechanism for monitoring labour needs in all sectors of the economy;
- enhance the management of the VET system;
- build social partnerships between VET schools and the employers who require personnel;
- introduce a new mechanism for the employment of graduates based on agreements between vocational schools, enterprises, institutions, organisations and students;
- create specialised centres equipped with modern facilities to train highly skilled workers for the agriculture, construction, machine building, chemical and service sectors, which will be set up with

the participation of employers and will foster the introduction of training in globally competitive specialist areas;

- improve social awareness of the attractiveness and prestige of blue-collar occupations, strengthen the positive image of VET schools, organise regional exhibitions highlighting blue-collar jobs, and intensify occupational guidance and counselling among children and teenagers.

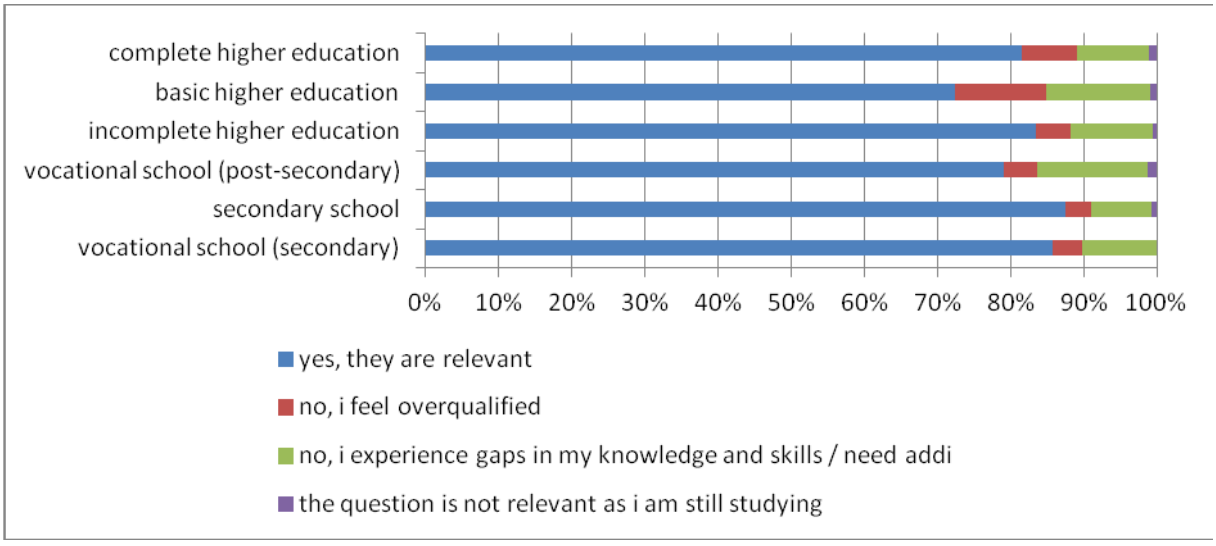
2.2 Mechanisms for identifying demand for skills and matching skills supply

Public regulation of employment is based on data from the SSS and the State Employment Service. Employment rates and labour force projections are based on data from population economic activity and households surveys. Labour supply projection is based on data taken from demographic forecasts, the outcomes of economic programme implementation and the analysis of employment and unemployment data.

The existing monitoring system has shortcomings. According to the World Bank (2014), the occupational skills taught in the VET system are not always those required in the labour market. Indeed, 20% of Ukrainian companies consider the inadequate occupational skills of workers to be the main obstacle to productivity and growth.

A further problem in this context is the perception of the skills mismatch by students and workers. In 2013, around 80% of young employed people in Ukraine considered that their education and training were relevant for their current jobs (Diagram 8). More of those who identified some type of mismatch reported a skills gaps or a need for additional training than reported felling overqualified. People with complete and incomplete higher education did not differ much in this respect from those with secondary education. The largest share of those who most strongly perceived a skills gap was the group of people with vocational post-secondary education, while those with basic higher education (bachelor degree) were more likely to feel overqualified.

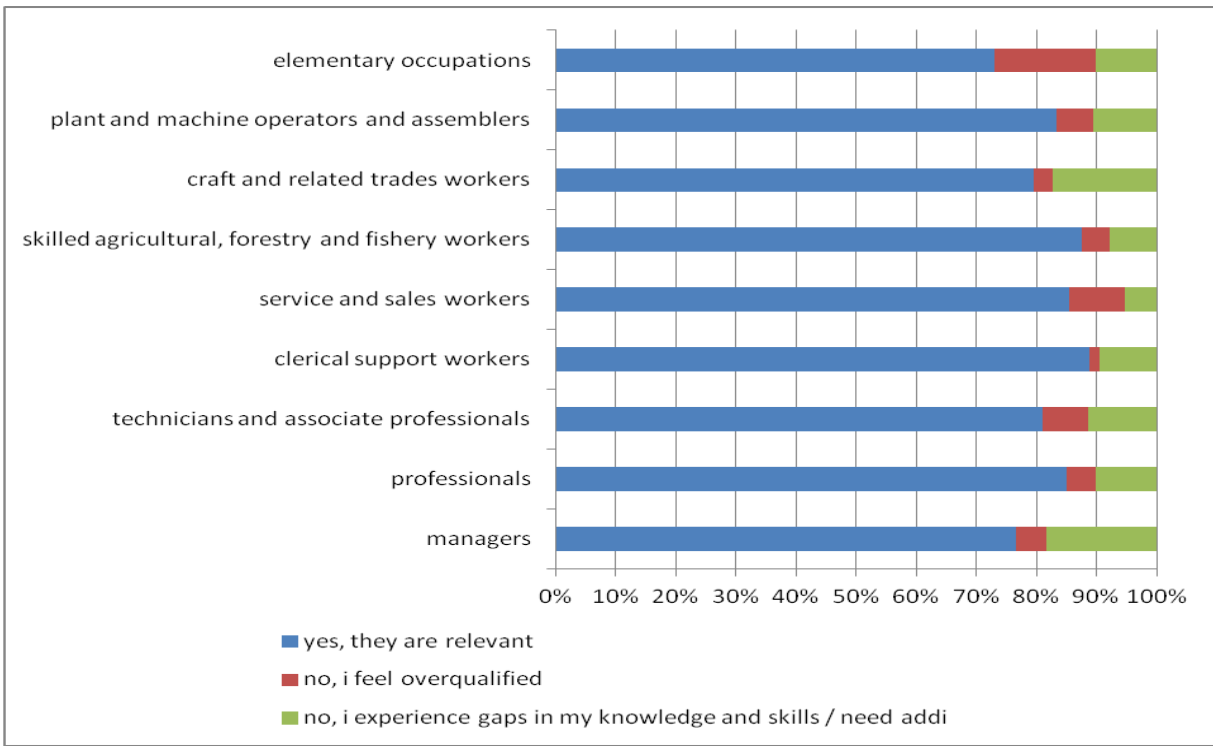
DIAGRAM 8: SUBJECTIVE PERCEPTION OF MISMATCH BY EDUCATIONAL LEVEL (2013), AGE GROUP 15-29 (%)



Note: Data refer to people aged 15-29 who are employed and are not currently enrolled in education.
Source: Own calculations based on ILO (2013)

An analysis of perceived subjective mismatch by occupation (Diagram 9) revealed that managers and craft workers were most likely to report a skills gap. In the case of the craft workers, the data point to possible problems in vocational education.

Diagram 9: Subjective mismatch as perceived by occupation (2013), age group 15-29 (%)



Note: Data refer to people aged 15-29 who are employed and are not currently enrolled in education.

Source: calculations on ILO (2013); ILO (2013), School-to-work transition survey (SWTS); ILO (2014), Labousta (http://labousta.ilo.org/informal_economy_E.html).

To support innovation in this area the "On Employment" Act (2012) provides for a unified Information and Analysis System within the State Employment Service to monitor the labour market and analyse labour supply and demand. This system gathers information from employers, employment services, and public authorities.

In order to better relate VET services to the needs of employers, since 2008 the MES has conducted annual employer surveys (28 000 people in 2008; 33 000 in 2009; 34 000 in 2010; 38 500 in 2011; 35 000 in 2012; and 36 000 in 2013). The survey results show a positive trend in employers' satisfaction with the qualifications of VET graduates (Table 8).

TABLE 8. VET GRADUATES WITH QUALIFICATIONS SATISFYING EMPLOYER REQUIREMENTS AS A PERCENT OF ALL GRADUATES

2008	2009	2010	2011	2012	2013
69%	72%	74%	75%	76.5%	76.6%

Source*: MES*

According to employers, the percentages of graduates meeting their requirements in different domains in 2013 were 76.5% in terms of knowledge, 76.5% in terms of capabilities, and 76.6% in terms of skills.

Under the "On Formation and Placement of the State Order for Specialists, Academic Staff and Skilled Workers Training, Further Training and Retraining" Act (№ 5499-VI dated 20.11.2012), the Ministry of Economic Development and Trade is responsible for making sure that public policy in the sphere of education takes into account the medium-term forecast on the labour market demand for specialists and skilled workers and finds the right balance in distribution of public resources.

The state order for skills training by VET institutions is determined by specific agreements between educational institutions and employers. In each region, the figures specified are discussed by the

Regional Sectoral VET Councils. Applications for public procurement are then agreed with the regional (municipal) state administrations and submitted to the MES.

At the regional level, a breakdown of the numbers of VET graduates and of blue-collar vacancies by occupation is made available to the education departments of regional/municipal administrations and regional employment centres. Data on the employment of graduates is also recorded and analysed.

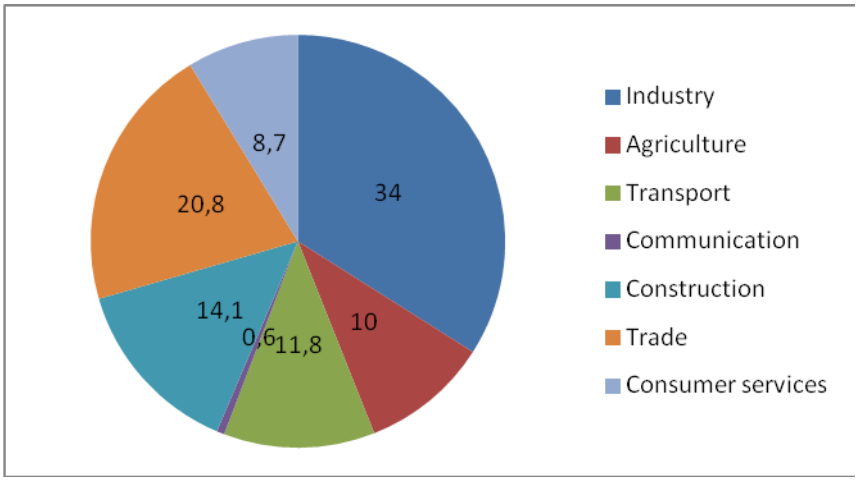
Despite positive trends, identifying labour market needs to inform the state order for skills training is still a significant problem.

The State Employment Service monitors the labour market to identify the number of job vacancies and unemployed jobseekers, and analyses employment data by occupational sector. According to the Service, between January and July 2014 the categories of workers most in demand were workers with skills in tool operation (20%), workers qualified in the maintenance, operation and oversight of process equipment and machinery (15%), professionals (14%) and trade and service workers (13%).

The problem is that the State Employment Service only has access to between 30% and 35% of labour market vacancies, and these jobs are the least attractive from the standpoint of remuneration. This means that the overall picture of the domestic labour market demand for personnel is not monitored. The situation could be improved through efficient cooperation between the state and employers.

According to MES data, the most attractive fields of study among VET students in 2011 (Diagram 10) were industry (34%) and trade (around 21%).

DIAGRAM 10: VET STUDENTS BY FIELD OF STUDY, 2011 (%)



Source: MES (2014).

The data on job vacancies used by the State Employment Service and the regional employment centres are publicly available on the websites of these organisations. In the regions there has been a trend towards closer cooperation between vocational schools and employers in planning how many skilled workers should be trained in a particular occupation or skill.

The problem is that the existing system does not provide specific data on difficult-to-fill vacancies. Data are, however, available on redundant occupations and are used to determine skills demand.

International experience shows that internal mobility of labour has a positive impact on productivity and economic growth. Public regulation of migration is a relatively new phenomenon in Ukraine; there is no effective mechanism for regulating internal and external labour migration in Ukraine today.

The State Migration Service is responsible for controlling labour migration. A significant contribution to improving migration regulation was the creation of a unified system of immigration control and the introduction of migration cards.

Labour migration is hindered by the lack of dynamism in the country's economy and internal mobility is about half the level of other EU countries. According to the World Bank (2014), the main barriers to internal migration are institutional: administrative procedures related to residence, undeveloped housing and credit markets, insufficient human capital and ineffective formal labour market institutions. Ineffective labour market institutions reduce the dynamism of the labour market, stimulate informal job agreements, and do not provide employees with adequate information on vacancies and labour market conditions beyond their place of residence.

Another problem is that the possibility of labour migration is not acknowledged in the process of agreeing skills needs. This is further complicated by the fact that the population in remote areas often lack the skills needed to access the best economic opportunities in the more productive sectors located in more developed regions.

Forecasting skills supply and anticipating labour market demand is an acute problem in Ukraine. The components of this problem are the insufficient attention paid by the government jointly with social partners to the problems of labour market forecasting; lack of unified methodological approaches to forecasting; and poor data availability.

The application of European approaches has been valuable in this context. In the Dnipropetrovsk Region under the pilot ETF project "Enhancement of the VET System through Skills Anticipation and Adaptation, Social Partnership and Optimisation of Resources" (2011-2013), enterprises were surveyed to ascertain the existing occupational skill structure of employees and identify future labour force demand. The procedure developed for the modernisation of regional VET networks facilitated more precise correlation of labour market demand and VET system supply.

2.3 Potential of the VET system to influence economic and labour market needs

In the context of the international community and the shift towards a focus on the core competencies of upcoming generations (including entrepreneurship), the promotion within the educational system of activities fostering entrepreneurial acumen among young people is seen as an important task. To this end, the state standard for basic and complete secondary education (which applies to all vocational schools for students receiving complete secondary education) envisages developing a number of key competences, including entrepreneurial skills. Entrepreneurial competence is developed by means of specific subjects and through cross-curriculum themes. The section of the state standard "Management and production" contains units entitled "Entrepreneurship" and "Business activity and its main types". The primary goal of the subject "Fundamentals of Economics" is to foster students' entrepreneurial spirit and this subject is a mandatory core component of comprehensive schools curriculum. The subject has complete methodological support (programme, textbooks, manuals, workbooks, topic-based planning).

In addition, all VET schools in the general vocational training unit enable students to learn the "Fundamentals of Industry-Specific Economics and Enterprise". The subject is included in all state standards on blue-collar occupations.

The formation of entrepreneurial attitudes and appropriate skills among VET students and teachers is promoted by the "Skills for Employment" (2012-2015) project implemented with the support of the Saskatchewan Institute of Applied Science and Technology (Canada) in three vocational schools (Kiev Professional-Pedagogical College named after A. Makarenko, Lviv Higher Vocational School of Catering and Tourism, and Ivano-Frankivsk Higher Vocational School of Hotel Services and Tourism). The aim of this project is to improve the quality, relevance and effectiveness of business training in VET schools.

The Ukrainian National Centre of Training Firms “Central” Association was founded within the Kyiv Professional-Pedagogical College named after A. Makarenko. Firms that operate in 15 educational institutions promote innovative technology and specialists training in business and entrepreneurship.

Regional VET systems have also started entrepreneurship skills training. In addition to implementing national approaches to the formation of entrepreneurial skills in the general population, the regions develop and implement their own mechanisms for the development of entrepreneurial culture.

At the level of IVET, there are two types of initiative.

- Learning and teaching facilities for entrepreneurship skills training are being set up. In Khmelnitsky Region a training pack “Promotion of VET students’ business acumen” has been introduced. The pack comprises a teaching guide entitled “Development of VET students’ business acumen”, a student textbook (“I work for myself”) and a workbook (“Business activity”).

- Centres focussed on developing practical entrepreneurial skills are being set up. In Vinnytsya Region a training firm “Perlyna Podillya” operates within the Vinnytsya Interregional Higher Vocational School and uses a “Commercial activity” training process that closely replicates real conditions through the use of virtual enterprises and bank operations. In Khmelnitsky Region, a students’ business centre consisting of marketing, accounting and production departments was created in Higher Vocational School № 11.

At the level of CVET, regional employment centres provide training, including business-oriented subjects, for the unemployed and adult population in VET schools premises. In Dnipropetrovsk Region, courses on “Basics of business planning” and “Basics of business planning in income generating activities” are offered. In Sumy Region, seminars on topics such as “How to start your own business”, “From business idea to creating your own business” and “Green tourism organisation” are given in vocational schools. In Kyiv, targeted courses are offered on the “Basics of small businesses”.

State policy on the promotion of entrepreneurship and business acumen is regulated by the “On SME Development and Support in Ukraine” Act (2012) and other regulations, and is implemented by the State Service for Regulatory Policy and Entrepreneurship Development. The legislation provides, in particular, for state support for the training, retraining and advanced training of business managerial and operational staff.

At the national level, there is a *National Programme for SME Development for 2014-2014.* The objective of this programme is to create, support and develop an enabling environment for SME activities.

The strategic guideline for the development of entrepreneurship in Ukraine is the *Small Business Act for Europe* (SBA). In line with this document, entrepreneurs are trained within the State Employment Centre’s digital system, courses for business start-ups are provided by the Ministry of Social Policy, and projects are implemented in cooperation with the Polish Agency for Enterprise Development (PARP).

The adult education sector is coordinated by the Ministry of Social Policy and the State Employment Service. At present, employees undergo further training on average once every 12 years, although the statutory standard calls for further training every 5 years. Over one million employees undergo on-the-job vocational training and further training every year, a figure that represents 9% of regular employees.

One positive aspect of the situation in Ukraine is the cooperation between the various education sectors involved in adult education, primarily the interaction between the employment services and the VET schools system. Vocational schools account for, on average, 25% of all adult education graduates, typically coming from fast-track modular training courses for occupations such as welder, computer operator, garment cutter, hairdresser.

The adult education system in Ukraine includes training for unemployed people. In 2014,181 100 people on the unemployment register received training on courses organised by the State Employment Service and 5000 received vouchers for training and further training.

One of the priority areas in the effort to diversify the delivery of adult education is training for unemployed people provided by the State Employment Service in VET schools: 7 such centres are in operation today.

Also of interest is the progress made on the legal framework for adult education: since the Torino Process 2010 report was written, Ukraine has passed a number of important pieces of legislation, including the following two acts.

- The "On Employment" (2010) Act, which defines a VET system that provides education and training for the following groups: people in initial vocational training in educational establishments and other institutions providing training in skilled occupations; employees undergoing initial vocational training, retraining and further training as part of their job; and unemployed jobseekers in need of initial vocational training, retraining and skills upgrading.

- The "On the professional development of employees" (2012) Act, which aims to ensure the effective functioning of the professional development system for employees, in particular their vocational training and the recognition and certification of formal and non-formal learning outcomes. Under this act, employers are obliged to provide employee training at least once every five years. The act also provides for the participation of trade unions and employers' organisations in the professional development of employees. It also provided the first national definition of the terms "vocational training of employees" and "formal and informal training of employees", and created a legal, organisational and financial framework for a system to ensure the professional development of employees, certification procedures and proficiency testing. Under this act, the responsibility for validating and certifying informal learning outcomes is assigned to centres of professional learning outcome recognition that form part of the State Employment Service. Learning outcomes are validated by a certificate confirming the upgrade in labour skills.

To date, the monitoring systems have not tracked VET school graduates who become self-employed or set up new businesses; however, in the light of new trends, regional governments have started to put systems in place that will collect such data.

2.4 Action and assessment of progress since 2010

The country's current economic challenges and its European orientation have led to progress towards the creation of a modern VET system capable of satisfying the skills needs of the economy and the labour market. The progress achieved over the period since 2010 can be ranked 4 because, despite certain achievements, there is still a pressing need to address the issue of creating a system capable of responding rapidly and adequately to the needs of the economy.

Current priorities include the following:

- introduction of systems capable of effectively forecasting the skills needs of the economy and the labour market based on best international practices and technologies;

- optimisation of the state order for the training of skilled workers in VET institutions: the state order formation process is currently being adjusted to factor in the medium-term forecast for labour market demand prepared by the Ministry of Economic Development and Trade, which includes information from other central executive authorities, local government, and social partners;

- further promotion of entrepreneurship;

- public procurement with due regard to the effectiveness of educational institutions.

To achieve these goals will require modernisation of the legislation on vocational education in the light of the experience of European countries and the creation of effective social partnerships involving employers in the task of upgrading the VET system to achieve quality vocational education that will meet their requirements.

The current system for identifying demand for VET graduates' occupational skills requires further improvement in terms of forecasting. This issue will be addressed by the "On Vocational Education" Act currently being developed.

The successful implementation of measures to improve the VET system's response to labour market requirements will depend on the country's political and economic stability.

There have been no significant achievements in any of the three forward-looking activities (policy development, implementation, and effectiveness monitoring) not covered by this section.

3. EFFECTIVENESS AND EFFICIENCY IN ADDRESSING DEMOGRAPHIC, SOCIAL AND INCLUSION DEMAND

3.1 Demographic and social factors that shape the demand for VET

Ukraine had a population of around 45.4 million people in 2013 (World Bank, 2013). Population growth continues to be negative although the decline has been slowing slightly in recent years. In 2014, Ukraine lost around 2 million people due to the annexation of Crimea. Estimates of the numbers of internally displaced persons and migrants coming from the conflict regions vary from 500,000 to 1 million.

TABLE 9. POPULATION BY AGE GROUP (%)

Age	2006	2007	2008	2009	2010	2011	2012	2013
0-14	14.3	14.1	13.9	13.9	13.9	14.0	14.2	14.5
15-64	69.7	69.8	70.0	70.2	70.3	70.4	70.5	70.5
65+	16.0	16.1	16.1	15.9	15.8	15.6	15.3	15.1

Source: World Bank, 2013a (last accessed 10.10.2014).

TABLE 10. ANNUAL POPULATION GROWTH (%)

	2006	2007	2008	2009	2010	2011	2012	2013
Total	-0.7	-0.6	-0.5	-0.4	-0.4	-0.4	-0.2	-0.20

Source: World Bank, 2013a (last accessed 10.10.2014).

As regards other rankings and indicators, Ukraine improved its ranking on the World Bank Ease of Doing Business index from 140 to 112 (2012–2013) but dropped nine places on the Global Competitiveness Index (84th in 2013-2014). The country has the highest rank in Europe on the Corruption perception index (144 in 2013).

The ongoing military conflict will affect national employment and education statistics (exact figures will only be available in 2015) and will very likely also have a negative impact on many international rankings.

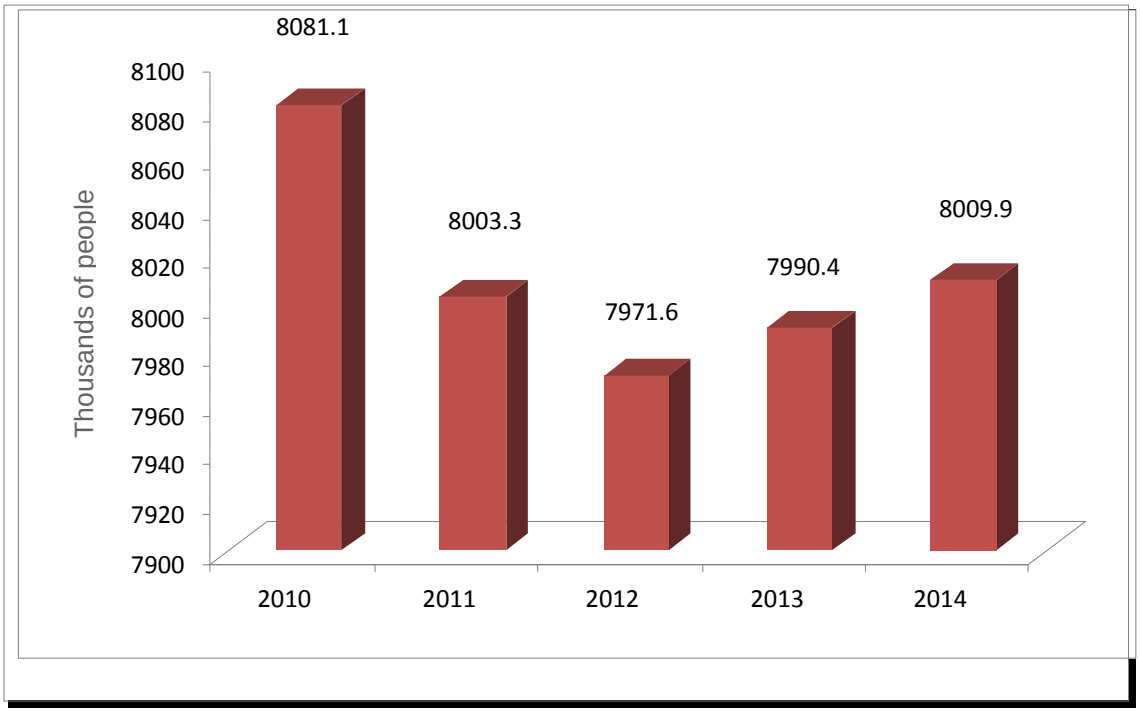
The population aged under 17 years was just over 8 million people in 2014, or 18% of the total. A positive trend is the increase in the young population over the last year as compared to the decline in preceding years (Diagram 11).

The pattern of population migration has increased due to external migration. High levels of internal migration are also a feature, with around 97.5 per 10 000 persons—or about 1% of the population—changing their domicile in 2014. Internal migration increased substantially as a result of the military conflict in the Donbas Region.

Ukraine is a multi-ethnic state, with Ukrainians making up the majority of the population and with a large Russian ethnic community. The country is also home to many other nationalities (over 100 ethnic groups).

There is no ethnic or religious discrimination in Ukraine or discrimination against minorities. There are no barriers to the education of women and under the “On Employment” Act (2012) all citizens are protected by the state against discrimination in employment, including on the basis of gender. Under the law, women and men enjoy equal access to job vacancies. The unemployment rate in the cohort aged 15-24 is lower in Ukraine than the average in EU countries, which is a positive aspect (data from the State Employment Service).

DIAGRAM 11. NUMBER OF YOUNG PEOPLE IN UKRAINE (2010-2014)



Source: SSS

Analysis of SSS data for the last five years reveals a number of problematic issues related to social inclusion.

- Socioeconomic and development differences between regions: the GRP of the capital is almost 10 times that of Sumy and Khmelnitsky regions, and the GRP of the Dnipropetrovsk Region was also high in 2012.
- Persistently high rates of long-term unemployment following the global economic and financial crisis in 2008 due to the weak recovery of the national economy. Long-term unemployment (as a percentage of total unemployment) was 18.4% in 2009, 33.9% in 2010, 28.4% in 2011; 28% in 2012; and 27.3% in 2013.
- High proportion of employment in low-paid, low-skilled jobs (21-23% of the total number of those officially employed).
- High level of informal employment (30-40% of the economically active population).
- The economically inactive population represents a significant proportion of the total population. Of this, people in education (at all levels) are the second largest group.

The issue of internally displaced persons became pressing in 2014: according to a report by the United Nations Office for the Coordination of Humanitarian Affairs in Ukraine, 379 000 people moved from the conflict zones in eastern Ukraine and the Autonomous Republic of Crimea to other parts of the country (data as of 10.01.2014).

All these trends will lead to labour shortages in the near future and, in conjunction with the high proportion of students choosing to enter higher education (80% of all graduates), which may have an impact on the supply of skilled workers in the main blue-collar occupations in the coming years.

Moreover, a large proportion of the workforce in Ukraine is still low-skilled labour, primarily because of the lack of real structural change (the rigidity of the domestic labour market, the lack of flexibility in terms of the structural adjustment of the economy, low levels of labour mobility, etc.).

3.2 Delivering to the individual demands and aspirations of learners: access, participation, progression

The demands and aspirations of individual students are identified and addressed in Ukraine through a number of different mechanisms.

- *Vocational guidance* for the population as a whole and for young people is provided under a number of legislative and regulatory acts: the "On Employment" (2012) Act; the *Concept for the State System of Vocational Guidance* (approved by the Decree of the Cabinet of Ministers, 2008); the *Action Plan for Implementation of the Concept for the State System of Vocational Guidance* (approved by the Resolution of the Cabinet of Ministers, 2010); regulations of the Ministry of Labour, the MES and the Ministry of Social Security on Vocational Guidance Organisation (1995); regulations of the MES, the Ministry of Labour and the Ministry for Youth and Sports on Vocational Guidance for Young People Who Study (1995). In practice, state employment centres provide vocational guidance for unemployed people and educational institutions are responsible for the guidance of young people who are still studying. The problem in the latter case is the lack of cooperation between secondary schools and VET institutions, often due to the fear on the part of secondary schools that they will lose students.

- *Adult education* is regulated by the "On the Professional Development of Employees" (2012) Act. The act defines employers' obligations regarding the further training of employees, which must be provided at least once every five years. It also mandates the participation of trade unions and employers' organisations in the vocational training of employees and provides for the validation of qualifications. Regulations relating to on-the-job vocational training (a joint Order of the Ministry of Labour and Social Policy and the MES), which were enacted in 2001 and amended in 2012, provide for the delivery by employers to employees of formal and informal training—including initial vocational training, retraining and further training.

- *Recognition of informal learning outcomes.* An integrated system of informal learning has been developed in Ukraine through the creation of a legal and regulatory framework and practical mechanisms. In addition to the "On the Professional Development of Employees" (2012) by employers, several other pieces of subordinate legislation have been enacted to regulate non-formal and informal learning and the recognition and validation of learning outcomes in this context:

    - "On the procedure for the validation of non-formal and informal learning outcomes in blue-collar occupations", Resolution № 340 of the Cabinet of Ministers dated 15 May 2013;

    - "On approval of legal acts concerning the validation of non-formal and informal learning outcomes in blue-collar occupations", Order № 875/1776 of the Ministry of Social Policy and the MES dated 16 December 2013;

    - "On approval of the issuing procedures and forms for training certificates in blue-collar occupations", Order № 886 of the Ministry of Social Policy dated 23 December 2013;

    - "On the creation of an Interagency Working Group to address the issue of the compliance of enterprises, institutions and organisations with the requirements for enterprises, institutions and organisations regarding validation of non-formal and informal learning outcomes in blue-collar occupations", Order № 695 of the Ministry of Social Policy dated 26 September 2014.

Development of occupational profiles, assessment methodologies, and tools and criteria for competencies acquired through non-formal and informal learning was started within the framework of

the ETF project (2013-2014). In particular, a comprehensive model for the recognition of non-formal and informal learning outcomes for professional cooks was developed and piloted.

The “On Vocational Education” (1998) Act and other regulatory instruments guarantee equal access to VET in accordance with persons’ abilities and preference. Furthermore, the MES supports and monitors the transition of VET graduates from educational institutions to the workplace.

The VET system also plays an important role in supporting vulnerable population groups, particularly orphans, children not in parental care and people with special needs: these groups are guaranteed preferential treatment when they enrol in vocational schools; their training and retraining is funded from the state budget; they receive material assistance and rehabilitation during training; and they are guaranteed employment and housing.

The right to non-competitive admission to vocational schools for individuals with disabilities is guaranteed by the VET Admission Regulations. Moreover, in accordance with the state standards on VET, these students have guaranteed access to curricula and programmes of study appropriate to their specific needs. They also have access to specially developed checklists, test tasks and reference notes and, as far as possible, their classrooms are equipped with appropriate workstations, devices, materials, tools, and course books.

Vocational training is provided by VET schools to students with disabilities on the basis of their interests and specific medical conditions with due regard to economic needs of the region. These students can choose from a range of occupations, including computer operator, office worker, desk top publishing operator, personal assistant, plasterer, garment cutter, tile maker or tile-layer, etc. Some of the new licensed occupations even ensure guaranteed employment and/or the possibility of self-employment.

An All-Ukrainian competition “Vocational education of individuals with disabilities and/or special needs in VET schools” is held annually with a view to improving the system for training individuals with special needs in VET schools and promoting their social integration.

While in some cases special training groups are created for students with similar issues (problems with hearing, vision, mental development, cerebral palsy, etc.), students with special needs are usually integrated into mainstream education.

Ukrainian legislation clearly defines the rules governing admission to educational institutions providing training for blue-collar occupations and horizontal promotion in a system that is characterised by its openness and flexibility.

Under the VET Admission Regulations (Order of the MES № 499 dated 14.05.2013), admission to VET schools is carried out by way of competitive selection based on the results of entrance examinations (taking the form of examinations/tests on individual subjects), an interview process, and the average grade received in basic secondary education or the secondary education certificate.

The VET system is staged, which creates opportunities for horizontal promotion. Once they obtain the educational-proficiency level of “Skilled Worker”, students are eligible for courses leading to a “Junior Specialist” qualification in a higher vocational school or in a vocational training centre (part-time study). Admission to such courses is through competitive selection based on occupational entrance tests.

In Ukraine, there are no restrictions preventing graduates of VET schools from enrolling in HEIs. The percentage of such persons in the total number of higher education graduates has remained stable in recent years: 7.7% in the 2009/2010 academic year; 7.6% in 2010/2011; 6.3% in 2011/2012; and 8.1% in 2012/2013 (SSS data). Most VET institutions graduates enter the labour market—84% according to MES data.

A recent innovation is the introduction of monitoring of adults entering education. The "On Amendments to certain Laws of Ukraine concerning VET Governance Improvement" (2012) Act and the *Procedure for incoming control* (Order of the MES № 688 dated 06.06.2014) specify that the knowledge and skills of workers eligible for training and retraining must be monitored by VET institutions in order to adjust curricula and training time.

3.3 Delivering to socioeconomic and inclusion demand

SSS data demonstrate the substantial contribution that the VET system had made to the promotion of vocational training among young people from vulnerable population groups (orphans, children not in parental care, and people with special needs); on average, 30% of students trained within the VET system in recent years have come from vulnerable groups. This statistic demonstrates the social function of the VET system in Ukraine.

TABLE 11. SHARE OF STUDENTS TRAINED IN VET SCHOOLS BELONGING TO VULNERABLE GROUPS (EXPRESSED AS A PERCENTAGE OF ALL STUDENTS).

2010	2011	2012	2013
30%	30%	29%	28%

Source: SSS

The percentage of people belonging to vulnerable groups who attain employment following vocational training has also remained stable (Table 12).

TABLE 12. PERCENTAGE OF PEOPLE FROM VULNERABLE GROUPS ATTAINING EMPLOYMENT IN OCCUPATIONS REQUIRING PRIOR TRAINING

Category	Academic Year			
	2009/2010	2010/2011	2011/2012	2012/2013
Orphans and children not in parental care	90%	87.8%	87.4%	82.3%
Individuals with physical and mental disabilities	83.3%	73.8%	80.0%	72.2%

Source: SSS

A pressing issue that has arisen in connection with the military conflict in the east of the country is the presence of internally displaced persons from the Donetsk and Lugansk regions. The MES has implemented a policy to support VET students from these regions and provide them with the opportunity to continue their studies elsewhere.

3.4 Action and assessment of progress since 2010

The VET system in Ukraine performs the function of providing social support for vulnerable groups on a continuous basis. The progress in this area can be ranked 3 because of the creation of a legal framework for the recognition of non-formal and informal learning outcomes. Since this is a new initiative, there has been little time to assess the results.

The priorities include:

- *further support for the training of vulnerable groups* (orphans, children not in parental care, and persons with mental and/or physical disabilities);
- *a greater effort on the part of the VET system to further the training of internally displaced persons;*
- *further modernisation of the legal framework*: a new draft law "On Education" is under development, which aims, inter alia, to secure the rights of citizens to equal access to vocational training with due regard to the labour market demand for skilled workers.

No other challenges relating to this section that are not fully reflected in current policies and initiatives have been identified.

There has been no significant progress on any of the three forward-looking activities (policy development, implementation, and effectiveness monitoring) not covered by this section.

4. INTERNAL EFFICIENCY OF THE VET SYSTEM

4.1 Quality assurance

4.1.1 Planning

The definition of the quality of VET as a national system of workforce training is a function of the state. The *National Education Development Strategy for the period up to 2021,* approved by Presidential Decree in 2013, states that the quality of education directly affects the sustainability of the democratic state and economic growth and addresses the social needs of society and the individual.

In the *National Education Development Strategy for the period until 2021* (2013) the quality of VET is defined in the following terms: modern competence-based standards development for occupations with a broad skill-set; courseware upgrade; creation of centres for innovative technologies at the leading public VET schools; optimisation of financial mechanisms and the VET management system; modernisation of the current legal framework; and ICT implementation in VET training.

The quality of initial VET training (in the case of young people studying to enter a blue-collar profession after basic secondary education) also includes the academic achievement of students.

4.1.2 Assessment and evaluation

The assessment system used in VET is based on current, subject-centred, intermediate and final checking of students' knowledge.

- *Current, subject-centred and intermediate checks* involve oral and written tests, testing, and pass-fail exams. The form and content of such assessment is determined by teachers.
- *The final check* is a proficiency assessment that aims to estimate the preparedness of the candidate to independently perform a set of tasks or activities in their chosen occupation or specialty. Proficiency assessment of students/employees undergoing vocational training in VET schools (IVET) and on-the-job (CVET) takes the form of qualifying examinations. These include qualification test work (performed by students at dedicated workplaces on the production site), written examination papers or theses, and examinations. Proficiency is assessed by VET schools in collaboration with employer representatives. An appropriate qualification is awarded depending on the results of the proficiency assessment.

In IVET, students studying for a basic secondary education (and students in secondary schools) sit a Final Certifying Examination, which is a written examination on the general subjects that form part of the state standard, and undergo independent external testing to gain access to further studies at university level.

These quality check mechanisms are applied at the final stage of training. The number of graduates from VET schools who enrolled in an HEI though independent external testing is increasing according to MES data (Table 13).

TABLE 13. NUMBER OF VET SCHOOLS GRADUATES WHO PARTICIPATED IN EXTERNAL INDEPENDENT TESTING (EIT) IN THE PERIOD 2011 TO 2013

Year	Registered for EIT	Participated in EIT	Entered higher education	Entrants via EIT as a percentage of student in HEIs,
2011	21 726	18 041	8 280	45.9%
2012	13 644	12 916	4 326	33.5%
2013	20 529	18 013	9 153	50.8%

Source: MES

In addition to mechanisms that assess the quality of students' knowledge, there are also systems for evaluating the quality of the outcomes achieved by the VET system.

- *At the regional level,* the education authorities carry out a specific and comprehensive evaluation of educational institutions and their certification by the State Inspectorate of Educational Institutions of Ukraine. The achievements of VET institutions are also measured through regional competitions of occupational excellence, academic competitions involving VET students, and creative exhibitions.

- *At the national level,* statistics are compiled on the number of VET students who graduated with distinction or a higher labour grade, who enrolled in universities, or who obtained a lower labour grade. The comparative analysis of this data takes into account the fields of education of each educational institution.

The results of the learning outcomes assessment serve as the basis for conferring a state qualification (diploma or certificate). The results of specific assessments in the form of training tests, dictations, etc. serve as a basis for subject-specific certification and transfer to the next stage (course) of training.

Ukraine has an integrated and comprehensive accreditation system, referred to as "attestation", to assess the proficiency of educators. The system is designed to evaluate the teacher's level of compliance with the requirements of his or her job in terms of level of proficiency and to award further qualifications or pedagogical titles where applicable. Attestation is governed by the *Model Regulations on Teachers Attestation* (Order of the MES № 930 dated 06.10.2010). Further training through formal training programmes and based on a free choice of educational institutions is a prerequisite for attestation. An Attestation Commission evaluates educators' teaching and overall performance by attending their lessons, assessing their students' educational achievements, studying what innovative teaching and production technologies or ICT they use and what teaching materials, manuals, or textbooks they have created. The attestation process allows a teacher to attain a higher-level qualification or pedagogical title, opening up new opportunities for career development.

The *Procedure for Further Training of VET Teachers* (Order of the MES № 535 dated 30.04.2014) stipulates that teachers must undergo in-service training at least once every 5 years at post-graduate educational institutions, universities, VET teacher resource centres, or the premises of vocational schools. After training, the results achieved by the educator are evaluated on the basis of the pedagogic objectives set and the vocational competencies acquired. The outcomes of such in-service training are taken into account in routine or unscheduled attestation processes.

Self-driven development is encouraged among teachers in the VET system through the use of individual professional development plans and self-directed education plans. Career development of teachers is also supported through methodological and pedagogical services located in educational institutions, libraries, information and communication services, and the system of continuing development of vocational competencies at the level of the educational institution as well as at regional and national levels, including seminars, centres of excellence, internships, training courses, and other mechanisms.

4.1.3 Accreditation of VET providers and programmes

Attestation is also the instrument used to audit the quality of state skills training and to evaluate the capacity of educational institutions, both IVET (VET schools) and CVET (business training units), to provide appropriate education at the level required by and in compliance with state standards. Attested institutions can issue state-recognised VET certificates. According to the *Regulations on Vocational Schools Attestation* (1996), educational institutions must be assessed every 10 years by the State Accreditation Commission and undergo a process called complex monitoring every five years. The Commission (governed by the *Regulations on the Accreditation Commission*, approved by a Decree of the Cabinet of Ministers in 2003) is a permanent collegial body responsible for licensing

and attestation of (among others) vocational schools and other entities providing training and retraining in specific fields, specialist areas and occupations. The chair of the Accreditation Commission is a person who holds a post in the MES. The membership of the Commission comprises MES employees and representatives of regional authorities, employers, educational institutions, and the state inspectorate. The Commission's powers include discussion of the findings of expert panels following attestation reviews as well as decisions on the issue of licences and certificates of attestation. The State Accreditation Commission creates regional expert boards, who are in charge of attestation in the region. The composition of such boards is agreed with the local authority, which also defines the expert study schedule. Regional expert boards, in turn, create expert panels and consult the principals of VET schools to gather the information required by the procedure. This information then serves as the basis for the attestation programme, which is drawn up and agreed with the regional expert board.

For the purposes of attestation, institutions are required to submit to the regional expert board self-assessments of their educational activities, including an analysis of the facilities, staffing and courseware, and copies of curricula, syllabi and integrated tests, as well as details of students' learning outcomes.

4.1.4 Qualifications

Qualifications are awarded on the basis of learning outcomes and the assessment of fulfilment of the standards set by the state for a particular occupation.

Attestation of vocational schools (in Ukraine, vocational schools undergo attestation, not accreditation) is carried out by field and occupation and by type of vocational training (initial training, retraining and further training). Compliance with the requirements of state educational standards is assessed. Successful attestation entitles a vocational school to deliver training, retraining and further training at the educational-proficiency level of a skilled worker in specific occupations and the right to certify a particular occupation or skill category. An educational institution is considered attested, if at the time of attestation at least 75% of the occupations taught there have been assessed. The remaining 25% of occupations can be assessed later. In the case of Junior Specialists, every specialty must be accredited.

The Resolution of the Cabinet of Ministers № 200 dated 12 February 1996, "On the licensing, certification and accreditation of educational institutions", provides for a direct link between the attestation of vocational schools and the level of knowledge, skills and qualifications acquired by their students.

The Order of the MES № 772 dated 17 June 2013, "On approval of indicative criteria for evaluation of pre-school, secondary and vocational school activities", suggests indicative assessment criteria for vocational institutions, including, in particular, performance criteria (percentage of students having passed a qualification attestation, percentage of students who have been awarded skill categories). The results are intended for use in the attestation survey.

Following the approval of the NQF by the Cabinet of Ministers (Decree № 1341 in 2011), work on its implementation in the VET system was started on various levels:

- a draft *Strategy for National Qualifications System Development*, which aims to ensure interaction between the education system and the labour market, has been developed;
- methodology for the development of competence-based state standards for specific occupations in VET;
- meetings of the Interagency Working Group on vocational education state standards development and implementation;

- amendment of the National Classifier of Ukraine *"Classification of Occupations"* to introduce training in new multi-skilled occupations.

4.2 Policies for VET trainers and directors

Qualification requirements for teachers and masters of on-the-job training are set out in Article 9 of the "On the Professional Development of Employees" Act, Article 4 of Chapter VIII of the "On Vocational Education" Act and in "Qualification profiles of occupations (positions) of teaching and academic teaching staff in educational institutions" *(*Order of the MES № 665 dated 01.06.2013, agreed with the Ministry of Social Policy).

In the IVET sector:

- teachers and senior masters of on-the-job training must have complete higher education and have psychological and pedagogical training and at least two years' work experience;
- masters of on-the-job training and vocational teachers must have basic or incomplete higher education and a vocational qualification one to two grades or categories higher than that of vocational school graduates, but there are no requirements relating to experience;
- persons who do not have pedagogical training must complete psychological and pedagogical training;

In the CVET sector:

- teachers, masters of on-the-job training and vocational teachers are required to have a university degree and at least three years professional experience;
- vocational instructors from among the skilled workers must have at least three years' experience in their profession and a qualification level (grade, category) no lower than that awarded by the educational plans and programmes of the training they are delivering.

The VET system employs nearly 48 000 teachers, 62% of whom are women; 70% of VET teachers hold a degree (Bachelor or Master); 30% of masters of vocational training are Junior Specialists, and 183 teachers have scientific degrees and academic ranks. One in four teachers is skilled in two or more occupations.

Various mechanisms, including academic qualifications upgrades, training courses, further training and recognition of effective development of occupational and pedagogical expertise, provide teachers with opportunities for career development. Teachers can move from a master of on-the-job training position to that of senior master, VET school Deputy Director, education institutions inspector. They can also become employees of VET governing authorities at regional or national level. In Khmelnitsky Region, for example, the Regional Methodological Service developed and implemented a system of continuous VET teachers' occupational expertise development, which includes intra-school and regional levels, self-education activities, and further training. The system is based on the principles of continuity, lifelong learning, student-active learning approach, diagnosis, differentiation, individualisation and the combination of teachers' personal interests with the objectives of institutions. This approach has facilitated the development of individual teachers and of groups based on shared problems, with activities targeting the development of their occupational and pedagogical expertise.

However, the system for imparting practical training to teachers and masters of vocational training needs improvement. The primary aims must be to increase cooperation with employees in terms of new technologies training and to improve the tutoring system, etc.

Most executive staff positions in VET institutions are currently occupied by men (76%) and women are still in the minority at this level (24%). The required qualifications for VET school executives include

complete higher education and psychological and pedagogical training (for those who do not have pedagogical education), at least 3 years' work experience in an executive position at educational institutions or an organisation or business with a similar orientation.

Vocational school principals are officially employed by the MES (or other ministries that governs the institution where they work). Directors of state-owned institutions are selected and appointed on a competitive basis by the regional educational authorities in the manner prescribed by the MES. Directors of VET institutions owned by other entities are appointed by their founders.

Under Ukrainian law, teachers must complete further training at least once every 5 years and completion of such training is a prerequisite for their next attestation. The procedure for the further training of masters of vocational training (regardless of who owns the school and who employs them) is regulated by the *Procedure for VET schools teachers' further training (*Order of the MES № 535 dated 30.04.2014). This regulation requires teachers to receive further training through various forms or learning and in-service training programmes, and educational institutions are free to organise training at post-graduate educational institutions, universities, VET teacher resource centres (offices) in businesses and at the premises of vocational schools. The format of VET teachers' professional development, which is also determined by the *Procedure,* includes long-term further training, short-term further training (seminars, master-classes, workshops, training seminars, author schools, trainings, webinars and round tables) and internships. The length of courses in long-term professional development training programmes is determined by the mode of study and ranges from 72 to 216 hours. The frequency of short-term advanced training is determined by VET schools according to the institution's objectives and the specific educational needs of employees; the duration of such training may be up to 72 hours. The study modes are full-time, extramural, part-time, one-to-one and online. The procedure specifies that the outcomes of further training must be taken into account in the teacher's subsequent attestation.

The MES supports the system of training, retraining and further training of VET engineering and teaching staff through HEIs and field-specific VET schools. The MES organises training for VET teachers in specialist areas ("Vocational Education in the Field of Qualification") through undergraduate degree programmes that award a number of qualifications, including vocational teacher, teacher of practical training, engineer-teacher and teacher of vocational and theoretical training in relevant industries or in the service sector.

The MES is piloting new forms of further training to prepare teachers for innovation.

- Teacher training aimed at mastery of ICT skills: online learning, distance learning, Intranet learning. Since 2007, the acquisition by teachers of ICT skills has been promoted by their participation in the Intel® corporation programme *Education for the future* run by qualified trainers from amongst VET teachers and delivered on the premises of supporting vocational schools. Nine thousand VET schools teachers have received such training in the last 5 years.

- The *All-Ukrainian forum of masters of vocational training* has been held since 2012 to promote the profession.

- The aim of the Directors Reserve School (established under the Order of the MES № 1333 dated 09.20.2013), which has been in operation since 2013, is to prepare young managers aged under 40 years for career development. The training takes the form of an internship at a regional department (board) of education, top vocational schools, or at the MES.

- In-service training courses and seminars are organised within the framework of the EU Twinning Project "Modernisation of Legislative Standards and Principles of Education and Training in Line with the European Union Policy on Lifelong Learning". These activities target VET teachers, instructors, principals and their deputies, regional VET teacher resource centre methodologists, as well as representatives of regional education governance bodies and employers. The official

beneficiary of the project is the MES. The format is short-term further training for VET teaching and non-teaching staff. For example, in 2014 workshops were held at Lviv Vocational School of Trade and Services, Vinnitsa Interregional Higher Vocational School (a public VET school), Khmelnitsky Centre for Services Sector Vocational Education (a public educational institution), and Cherkassy Construction Vocational School.

In order to innovate in this area, the MES suggested a new format for in-service training of educators, which gave rise in 2009 to a pilot scheme that introduced curricula and practical orientation programmes aimed at promoting pedagogical excellence. These courses are given at top VET schools and HEIs of corresponding orientation in cooperation with employers.

There is a shortage of masters of vocational training in certain occupations in Ukraine both because of the lower wages in the field of education as compared to industry and other spheres and the difficulty of pedagogical work.

One of the most effective mechanisms for attracting competent teachers and masters of vocational training to the VET system and retaining them would be to provide a path for the best VET schools graduates to enter higher education and to make the VET system more attractive to skilled production workers by offering them attractive salaries comparable to those in industry.

Mentoring for novice teachers and masters of vocational training is widespread in VET schools and is incorporated into various types of training: “School of young master”, “School of young teacher”, “School of excellence”, “School of reserve”. Guidelines and manuals, such as the textbook “Introduction to being a ‘Master of On-the-job Training’”, have been developed. A common practice is to “breed” teachers from among engineers working as teachers in vocational schools through mentoring, further training courses and other methods.

Masters of vocational training, who deliver on-the-job training and have no special training in pedagogy, must undergo special training in accordance in the standard further training programme for personnel involved in the on-the-job vocational training of workers (two levels).

Remuneration for VET teachers and throughout the education system as a whole is unfortunately inadequate. As of 1 January 2015, the salary of a VET teacher without seniority pay corresponded to the minimum-wage in Ukraine. The teachers who receive supplements for maximum length of service receive only twice this amount. In recent years, efforts have been made to improve the situation, but progress in this area is negligible due to the country’s economic situation. Examples of the progress that has been made include increases in of forms of material incentives for managers, bonuses related to correction of exercises and supervision of classes, long-service bonuses and salary increments for stressful work. The problem is that these and other incentives must not exceed the payroll budget and this has meant that managers are not always able to pay all the benefits due to teachers.

4.3 Teaching and learning

4.3.1 Teaching and learning environment

The “On Vocational Education” (1998) Act, together with other pieces of legislation, provides the legal framework for VET funding. Vocational schools can also seek private funding, which is classified as sponsorship. Schools have the right to use their financial assets at their own discretion upon approval of the Treasury of Ukraine.

Legislation also provides for indirect state support of VET schools through tax allowances and other incentives, including tax exemption for activities ancillary to the provision of educational services and for students’ meals in VET schools. In addition, the Tax Code affords grounds for tax exemption for profits earned by VET schools and exemption from land fees for agricultural vocational schools. Funds received for paid services can be deposited in the bank.

Education in vocational schools is organised around a class-and-lesson system, with a combination of theoretical and on-the-job training for students in training workshops and apprenticeship in production environments. Training objectives, subject lists and inter-subject communication mechanisms are specified in the training curriculum for skilled workers. The Institute of Innovative Technologies and Education Content of the MES develops and approves standard curricula and academic programmes that define national VET content. Based on these core curricula and programmes, VET schools develop their own working curricula and course of study that also include the additional knowledge and skills requested by employers and business organisations.

The curriculum bottleneck is on-the-job training of students.

On-the-job training is the most affordable, mobile and practically-oriented training. However, it is limited to the training of the skills required to perform technical and technological activities and operations and does not include basic knowledge training. The qualification obtained for on-the-job training can often correspond to that of a novice employee.

In Ukraine, the teachers' timetable (720 academic hours per year) is mainly allocated to teaching, lesson planning, correction of students' homework, tutorial duties, communication with parents and participation in teachers' meetings. Unfortunately, only some types of extra work are remunerated, including class supervision, correction of exercise books and the management and organisation of classrooms and laboratories. The organisation of a teacher's working hours depends on his or her timetable, training agenda and the teaching and management system of the educational institution. In general, sufficient time is allocated for lesson planning, sharing experiences with other teachers and learning process comprehension. However, the current orders regulating the organisation of training in VET schools do not clearly specify the time required for class planning and in-service training. New documents need to be developed.

Systemic factors that determine the environment include an ageing teaching body, a lack of masters of vocational training and a shortage of teaching aids due to underfunding.

4.3.2 Learning content

Under the state standard for vocational education, the existing model for the development of educational content allows VET schools to develop their own working curricula and programmes, which take into account employers' requests, the characteristics of the local economy, and labour market demands. This approach facilitates courseware updating. To better adjust curricula to employers' needs, at least 20% of the total training time is allocated to the development of skills and knowledge demanded by a specific customer in need of staff (within the regional or variable component of training programmes). Decisions on the introduction of a regional component and its content are made at meetings of the Methodological Committee with the participation of prospective employers.

The issue of adjusting training curricula and programmes to the needs of individual students and groups of students is related to the training of students with special needs and not generalised in the VET system. The adjustment of training curricula and programmes to individual needs and the provision of inclusive, distance learning in the VET system remains at the stage of development and implementation.

The *Procedure for monitoring the incoming knowledge and skills of individuals enrolled in retraining or further training programmes in vocational schools* (approved by Order of the MES in 2014) provides a mechanism for adjusting a curriculum to take into account the individual skills set previously obtained through formal and/or informal learning.

The key institutions responsible for providing methodological support for VET teachers are the Institute of Innovative Technologies and Education Content of the MES and the VET teacher resource centres/offices operating in each region of Ukraine.

- The priority of the Institute (created by the Cabinet of Ministers Decision № 108 dated 07.02.2006) is to address the needs of research and methodological support in national education and to improve training content and methods.

- Under the MES *Regulation on VET Resource (Research Guidance) Centre (Office)* (№ 856 dated 27.06.2013), the primary task of VET resource centres is to render methodological and research assistance to state-owned VET schools. The centres are responsible for methodological and information support for training and educational processes in vocational schools. Their activities include the following: analysing the quality of students' knowledge; participating in the development of national standards for specific occupations; organising conferences, seminars, pedagogical readings, courseware competitions and exhibitions; assisting VET schools in managing the activities of teachers councils, teachers' institutes, curriculum and instruction expert committees, and libraries; helping to set up methodological sections and methodological complexes by occupation and academic subject in vocational schools; organising VET teachers training and further training, internships, individual plans, and developing internship programmes.

Initial subject selection by no means limits students' opportunities in VET.

In Ukraine, the legislation provides for a system of vocational guidance for both young people and adults (the *Regulations on vocational guidance for young people who study* [1995] and the *Regulations on vocational guidance organisation* [1995]), which provide for students' vocational awareness raising, education, and information on occupations.

The problems include the lack of vocational guidance experts among schools employees in many regions, teachers' insufficient training in career guidance, poor logistical information and methodological support, and a lack of coordination between the different participants in the vocational guidance process.

The issue of textbooks publication is also a pressing problem in Ukraine.

- Over the last 10 years only 30% of the planned number of text books have been published, and in the last 4 years, publication has been suspended owing to a lack of funds.

- In general, vocational schools do not have all the textbooks they need on vocational and general subjects. At the committee hearings of the Verkhovna Rada (Parliament) of Ukraine on 18 November 2013 "On the practical application of the On Vocational Education Act in terms of financial support for VET institutions and vocational schools by the MES, the Ministry of Finance and regional authorities", the provision of textbooks for vocational schools was declared unsatisfactory (Table 14).

TABLE 14. TEXTBOOK PROVISION IN VET SCHOOLS IN UKRAINE

Textbooks in VET schools (% of required textbooks)					
Vocational subjects			General subjects		
2011	2012	2013	2011	2012	2013
74.0	70.5	74.0	66.0	53.1	62.4

Source: MES

Another aspect of this problem is the relevance of the textbooks' content to the requirements of the economy.

Solutions that have been proposed to deal with this situation include the development of methodological literature at the regional level, the purchase of material with extra-budgetary resources and the creation of e-learning materials.

- In Khmelnitsky Region, over the last 5 years, vocational school teachers and VET resource centre employees have produced 294 educational and methodological publications, 4 of which have been certified by the MES.
- In Sumy Region, between 2011 and 2013, vocational schools purchased 1 057 vocational study guides and 4 089 textbooks on general subjects with extra-budgetary funds.
- In Vinnytsya Region, in 2013, vocational textbooks and study guides costing in excess of 25 000 UAH were purchased using extra-budgetary funds. More than 30 uniquely designed e-textbooks developed by vocational teaching staff have been certified by the MES.
- In Dnipropetrovsk Region, over 400 electronic training aids for vocational and general education have been developed and incorporated into the training process. An electronic training media bank was created in the region and links to examples of innovative experience have been posted on the Regional VET Methodological Service website (nmc-pto.dp.ua) in the section "Information on web-resources and computerisation of vocational schools!"

Steps have also been taken at the national level to improve the situation. This year, for the first time in five years, the publication of three textbooks with a total circulation of 75 500 copies was funded by the state budget. The publication of 14 textbooks and manuals (over 275 000 copies) is scheduled in 2014 as part of a plan approved by the MES arising from research and an expert methodological review. These textbooks have been designed in accordance with the state standards requirements for VET and relate to priority occupations and areas of expertise (engineering industry, metal processing, transport and communications, and agriculture).

Full electronic versions of textbooks are being posted for free access on MES websites. The Institute of Innovative Technologies and Education Content is deemed to be the mechanism for providing all vocational schools with textbooks.

The quality of courseware is assured through approval by the MES, which is based on the results of research and expert methodological review; vocational schools can select from a list of books that have received a "Recommended" stamp of approval from the MES. Study guides and other course materials can be used independently.

4.3.3 Parental involvement

Mechanisms for and ways of working with parents are determined by VET schools. Parents are involved in the student learning process through parent committees and boards of trustees, parents' meetings and one-on-one meetings with staff. An important component of this cooperation is the financial support received from parents, which can help to supplement limited funding.

4.4 Efficiency of use of resources

Public education expenditure in Ukraine has recently averaged between 7% and 8% of GDP (7.88% in 2012). Six percent of the total education spending is allocated to ISCED level 4, which is mainly vocational education.

The activities of VET educational institutions in Ukraine are mainly financed by state (91%) with some contribution from local budgets (data from the SSS). A key problem is the failure to fully implement the current statutory provisions on the financial support of VET schools. Resources for VET school operation are planned in accordance with certain binding amounts of expenditure on vocational education. In practice, these funds only cover the basic protected overheads, which include wages

with charges (58% of the total funding) and student scholarships and utilities (10%), as well as mandatory payments to orphans and children not in parental care.

Lack of funds for institutional development and the implementation of comprehensive reforms leads to a decrease in the quality and attractiveness of the system: the number of vocational schools students per 10 000 population fell by 13.1% (from 107 to 93 persons) between 2000 and 2012. The situation is further exacerbated by the fact that employer contributions only cover 1.6% of the total cost of VET.

An additional problem is the current delay on the part of the State Treasury Service in making payments to VET schools and the fact that VET schools cannot freely use the special fund facilities received for skills training beyond the state order, workers retraining and further training, the provision of extra paid educational and other services. This situation complicates the execution of planned repair work and updating of the training facilities.

The problem of VET funding is multidimensional and includes both the underfunding of vocational schools by both state and local budgets and the ineffectiveness of the current funding practice.

Vocational schools try to solve the problem of underfunding by obtaining funds from alternative sources. They seek to increase self-funding by expanding the range of educational services offered to businesses and individuals (short-term training, retraining and further training courses), hiring out premises not involved in training and production processes, manufacturing products from customer-supplied raw materials within on-the-job training and work placement programmes; and attracting contributions from charitable foundations.

Optimisation of current financing practices is a topic addressed in the *National Education Development Strategy for the period until 2021*. One important change reflected in this document is the shift from the principle of keeping alive these institutions to the principle of defining their budgets on the basis of on cohort size, the introduction of multi-channel funding for education with subsidies, grants and loans, and the differentiation of these funds recipients. The new system also involves a modern system for setting the remuneration of work in education, as well as the introduction of a new per-capita formula in each occupation, the involvement of customers in financing skills training, and the withdrawal of extra-budgetary funds (earned by providers) from the State Treasury offices by enabling the providers to keep them in their bank accounts.

In recent years, there has been no lack of student places in vocational schools owing to the demographic decline. However, in the case of the more popular occupations, one student place may be requested by up to five persons (for example, occupations such as car mechanic, hairdresser, etc.). To optimise the training process, *Regulations on training process organisation in VET schools* (2006) have been enacted. These stipulate enrolment standards for classes (no more than 30 people for theoretical training). In vocational training that does not fall under government control and class size may not meet these standards.

Under the applicable legislation, the duration of training programmes is determined by VET level and can vary from 12 months at the first level (training courses in specific occupational fields, vocational schools, training centres) up to 4 years for people with basic secondary education who attain their complete secondary education in a vocational school with a specific orientation (second level).

The duration of studies in lengthy VET programmes is often criticised and many consider that the development of shorter training programmes, of up to 6 months duration, would increase their attractiveness and enrolment.

The maximum number of students per class is clearly governed by the MES *Regulations on training process organisation in VET schools* (2006) which specifies that the class size for theoretical study must be 25 to 30 people. Arts and crafts study groups and classes in the higher-level vocational schools are divided into two subgroups during general technical and special disciplines study.

4.5 Action and assessment of progress since 2010

Improving the internal quality of the VET system is a top priority for the Ukrainian authorities and community, and significant progress has been made in this area since 2010. The most significant achievements are the enhancement of the legal framework, the standardisation of educational content and the creation of VET standards in collaboration with the labour market, improvement of assessment of the learning outcomes, and the introduction of ICT. In view of these achievements, the progress made since 2010 in this area can be ranked 4.

It is difficult to estimate the efficiency of the quality improvement policy owing to the fact that none of the projects have yet been completed.

The creation of a strategic platform for VET internal quality improvement is a definite advantage as the provisions of the *National Strategy for Education Development in Ukraine for 2012-2021* on quality have been implemented.

The following areas of intervention have been selected for further action:

- changes in the qualification structure of skills training;
- optimisation of the network of VET institutions by restructuring and moving towards greater specialisation;
- updating VET content and introducing innovative educational technologies.

It should be noted that the VET system quality improvement policy is the most dynamic policy and that significant progress has been observed since 2010.

5. GOVERNANCE AND POLICY PRACTICES IN THE VET SYSTEM

According to Article 6 of the "On Vocational Education" Act (1998, amended in 2008, 2012, 2013), the governing bodies of the vocational education system include:

- the central executive body responsible for setting national policy in the field of education;
- the central executive body responsible for implementing national policy in the field of education;
- the central executive bodies that govern vocational schools, which include the regional and Kyiv city state administrations, as well as departments of vocational education (local governing bodies of vocational education) under their jurisdiction.

In Ukraine, the executive bodies involved in education **on the national level** are the MES and certain other ministries.

- The Ministry of Education and Science (MES), which is coordinated by the Cabinet of Ministers, sets priorities for VET and determines the approaches to be used. Its tasks include the following: draft legislation; define the list of occupations to be trained in vocational schools; develop national standards, standard curricula and education programmes; draft and approve regulations on the formation and development of VET; set up, reorganise and close down public vocational schools; administer the licensing and attestation of vocational schools irrespective of their ownership and subordination; determine the scope of vocational training, retraining and further training in VET schools, based on the state order and labour market needs; inspect vocational schools, enterprises, institutions and organisations, irrespective of their ownership and subordination; organise and oversee compliance with the laws and regulations on social protection of employees and students in VET schools; administer the state property used by subordinate vocational schools; organise VET information support and statistical records; organise VET research and methodological support; implement the latest scientific and technical innovations, new technologies and best practice in the training process; create standards for and provide logistical and financial support to subordinate vocational schools; define model rules for admission to vocational schools irrespective of ownership and subordination.
- The Ministry of Social Policy is the principal executive body responsible for setting and implementing state policy on employment, labour migration, and on-the-job vocational training. Under current legislation, the Ministry's tasks include the following: monitor the country's economic activity and labour market trends; coordinate policy on on-the-job vocational training; develop and approve cross-sector job descriptions for managers, experts, specialists, technicians and skilled workers in the catalogue of job descriptions for skilled workers; coordinate industry-related job descriptions; develop the Classification of Occupations and propose amendments; draft proposals aimed at improving work quota setting and labour organisation; develop and approve cross-sectoral work quotas; and organise the activities of the Council for Vocational Guidance. In practice, however, the Ministry's capacity is limited and a lot of this work is carried out by Ukraine's State Employment Centre, which has a large network of offices throughout the country. The State Employment Centre is governed by a tripartite Employment Insurance Fund in which the social partners have the same number of votes as the government. The fund is chaired on a rotating basis by one of social partners (currently by the trade unions). The State Employment Centre implements various ALMPs, which include retraining of unemployed people and supporting start-ups. It has also been assigned the task of organising and promoting the recognition and validation of non-formal and informal learning.

- The Ministry of Economic Development and Trade is responsible for the execution of the state order for skills training.
- Other ministries which govern vocational schools (particularly, the Ministry of Agriculture) are responsible for the implementation of VET state policy in the vocational schools that fall within their jurisdiction. These ministries are responsible for the following tasks in respect of the schools they govern: develop and determine future planning; establish, restructure and close down schools; determine the skills to be trained, retrained and further trained.

The objectives of the authorities **at the regional level** in the field of VET are set by both state and regional policy.

- Regional VET governing bodies (the VET departments of Boards of Education of regional state administrations) implement state VET policy. Their remit in this area includes the following: develop and implement regional policies; ensure compliance with VET legislation of subordinate educational institutions; monitor the fulfilment of the requirements of state standards by vocational schools, enterprises, and institutions licensed to provide training and education; overall management of the training, educational, teaching, economic, financial, and business activities of public vocational schools. They are also responsible for skills training, retraining and further training as well as the organisation of vocational guidance.

There are two aspects of governance at the level of VET institutions.

- *VET institutions.* The responsibilities of the institutions include the following: organisation of their own educational, training, financial, economic, and business activities; development of working curricula and training programmes based on standard curricula; definition of the regional component of VET content; organisation of on-the-job training in businesses; planning enrolment quotas with VET governing bodies taking into account the state order, labour market needs and input from enterprises and organisations about their future needs.
- Autonomous public bodies associated with vocational schools (general meetings/school staff conferences). These bodies play an advisory role in VET issues within their authority.

The issues of establishment of sector skills councils and coordination councils for the governance of schools are addressed.

In the Ukrainian VET sector there are established mechanisms for liaison and communication between different levels of governance, and the involvement of all stakeholders in policy development is a long-standing practice. These mechanisms include panels and meetings, many of which are carried out using ICT (webinars). The MES website containing information for the general public is actively used. It should be noted that no strategic documents in the field of education are adopted without prior public notice and comment.

5.1 Defining vision and strategy for VET

MATRIX 1. DISTRIBUTION OF RESPONSIBILITIES

	Target setting	Implementation	Monitoring
Who is responsible?	The Verkhovna Rada (Parliament) of Ukraine; the Cabinet of Ministers; and MES	MES and regional education governing bodies	MES, regional education governing bodies, and the state inspectorate of educational institutions
Who is accountable?	MES	MES, regional education governing bodies, regional VET teacher resource centres, VET schools	MES, regional education governing bodies, regional VET teacher resource centres, VET schools
Who is consulted?	Regional education governing bodies; employers, trade unions, other ministries (Ministry of Economic Development and Trade, Ministry of Social Policy, Ministry of Finance), NGOs, educational institutions	–	–
Who is (only) informed?	General public	General public	General public

MATRIX 2. MODE OF ACTION/DECISION-MAKING OF THOSE RESPONSIBLE

	Target setting	Implementation	Monitoring
Full autonomy/unilateral	–	–	–
After (obligatory) consultation	With other ministries, employers, trade unions	With other ministries, employers, trade unions	With other ministries, employers, trade unions
Participants in consultation	General public	General public	General public

5.2 Effectiveness and efficiency in addressing economic and labour market demand

The MES is responsible for bringing the skills of VET graduates in line with labour market demand. This is an open process involving employers, other ministries and departments and the general public. An effective mechanism for identifying labour market skills needs is also emerging.

5.3 Effectiveness and efficiency in addressing social and inclusion demand

The MES cooperates actively with the State Employment Service on vocational guidance for young and adult unemployed people and collaborates with the Ministry of Social Policy and employer organisations in matters affecting the recognition of non-formal and informal learning outcomes. One area that requires improvement is the support of students in navigating learning pathways within the educational system.

5.4 Internal efficiency and effectiveness of the VET system

MATRIX 3. DISTRIBUTION OF RESPONSIBILITIES FOR QUALITY STANDARDS

	Responsible for setting standards	Accountable for compliance	Monitoring and assessment
Quality standards: learning environment	MES	MES	MES
Quality standards: learning outcomes	MES	MES	MES
Quality standards: teaching	MES	MES	MES
Standards for VET provider accreditation	MES	MES	MES

MATRIX 4. MODE OF DECISION-MAKING WHEN SETTING QUALITY STANDARDS DEVELOPMENT

	Unilateral	Obligatory consultation	If consultation, with whom
Quality standards: learning environment	No	Yes	Employers, other ministries and agencies, trade unions
Quality standards: learning outcomes	No	Yes	Employers, other ministries and agencies, trade unions
Quality standards: teaching	No	Yes	Employers, other ministries and agencies, trade unions
Standards for provider accreditation	No	Yes	Employers, other ministries and agencies

MATRIX 5. RESPONSIBILITY FOR CURRICULUM CONTENT AND TEACHING STANDARDS

	Responsible for determining standards	Obligatory consultation	If consultation, – with whom
Curriculum content	MES and its Institute for Innovative Technologies and Education Content develop standard academic programmes; VET schools develop “workers” training programmes (programmes for obtaining the educational-qualification level of “Skilled Worker” are approved by regional education authorities; those for “junior specialist” level by the MES)	Yes	VET teacher resource centres; Higher Education Department of the MES (for “junior specialist” programmes); industry employers
How curriculum is taught	MES, VET teacher resource centres	Yes	VET teacher resource centres

Ukrainian legislation stipulates that public and municipal VET schools within the scope of the state order are financed by state and local budgets. Additional funding sources for VET schools include the following: funds received from fee-based services (beyond the regular funding of VET programmes) such as course training and retraining; income from businesses for work performed during industrial placement and practice; earnings from manufacturing activities in training workshops; remuneration for fee paid services defined on a list drawn up by the Cabinet of Ministers; and special grants.

Budget proposals for VET programmes are prepared by the MES and submitted to the Ministry of Finance for review and approval.

The educational operations of VET institutions are financed primarily (91.0%) from state and local budgets in Ukraine.

The financing model for public VET schools is regulated by Decree of the Cabinet of Ministers № 42-P dated 21 January, 2009, “Governance Matters of Certain Public VET Schools Accountable to the MES”. This decree includes a list of 137 VET institutions funded directly from the state budget. The

remaining 810 institutions are financed through budget transfers from the central level to the regional authorities.

5.5 Assessment of progress since 2010

Ukrainian legislation clearly specifies powers and allocates responsibility at all levels of governance. Two areas requiring more effective action have been identified: strengthening the role of the regional/local education authorities in the use of financial and material resources; and attracting employers to make a financial contribution to support VET.

The school boards foster the principle and practice of shared responsibility. Kryvyi Ri (Dnipropetrovsk Region) is an example of what can be achieved in terms of cooperation when sector-specific school boards work effectively: steel and mining occupations with PJSC Kryvyi Rih iron-ore plant; electrical occupations with LLC Kryvorizhelektromontazh; mechanical engineering occupations with PJSC Kryvyi Rih mining equipment plant; light industry occupations with LLC Polstar; mining and technical occupations with OJSC Southern Mining and Processing Plant.

The effort to build bridges between the VET system and social partners is currently characterised by an increase in the involvement of social partners (the representatives of industries that are the consumers of skilled labour) in the development of occupational standards, curricula and training programmes as well as by the modernisation of VET facilities for targeted skills training and the creation of training centres. There are currently 84 training centres, including a construction training centre specialising in Knauf technologies at the Kiev Vocational School of Construction and Utilities Systems and a training and practice centre for Henkel Bautechnik (Ukraine) energy saving technologies at Kiev Higher Vocational School of Construction and Design. Agreements on the creation of similar centres has been reached with KERNEL (one of Ukraine's largest agricultural companies), the League of Mechanical Engineers and Employers of Ukraine (Ukrmashbud), and SOCAR Energy Ukraine.

The *National Tripartite Agreement on Employment and Jobs* was signed on 1 June 2012 between social partners and the government as per the ILO recommendations on the Global Jobs Pact. This agreement aims to promote the decent work agenda, reduce informal employment and raise the prestige and attractiveness of VET.

Employers have actively lobbied for a law on professional qualifications which would establish a national qualification authority, support the development of standards and qualifications, and stimulate the implementation of the NQF adopted in 2011. In the meantime, the Federation of Employers established the Institute of Professional Qualifications, a body that promotes the establishment of sectoral skills councils, coordinates and advises on the development of occupational standards and provides quality assurance for sectoral standards. This initiative is an important interim solution aimed at supporting qualifications reform in Ukraine's complex economic and political situation. However, despite positive examples, the issue of cooperation with social partners remains challenging. The following areas have been identified as key challenges:

- The creation of a legislative framework for the participation of social partners in the development of public VET policy. An important contribution to the creation of a platform for effective social dialogue at the national level was the adoption of the Act "On Social Dialogue in Ukraine" (23.12.2010), which was intended to influence vocational skills training and the Act "On Employers' Organisations, Associations, their Rights and Activities" (2012), which introduced a mandatory review of VET state standards by the relevant All-Ukrainian employers' organisations;
- Involving business in the training process. Currently, the funds allocated to skills training by the production and business sector represent under 1.5% of the country's GDP. This situation is partly due to employer dissatisfaction with the quality of skills training;

- The lack of a systematic approach to involving the social partners in VET skills assessment and the accreditation of training providers.

The progress in achieving multilevel effective participation in VET system governance in the period from 2010 to 2013 can be ranked 3. However, recent progress can be ranked 5 because of the greatly intensified efforts that have arisen as a result of social transformations in the country after the political crisis of autumn 2013-spring 2014. A decentralisation legislation package passed by the Parliament of Ukraine, the “On Amendments to Certain Legislative Acts of Ukraine on Vocational Education” Act, was developed by the MES to delegate certain functions to local executive bodies, in light of the reform of local self-government and the reorganisation of territorial power in Ukraine.

With respect to the commitment of the MES to the implementation of decentralisation, a number of legal and other issues still need to be addressed. The local education authorities and VET institutions must also be ready to assume responsibility for effective governance of the local VET system.

Current priorities include:

- overcoming the excessive centralism of the governance of the VET system;
- fostering competition among VET institutions of different ownership types and forms to enhance the provision of quality educational services;
- enforcement in practice of the public-private governance model in VET schools by optimising the effectiveness of general staff meetings and the function of school boards.

ABBREVIATIONS AND ACRONYMS

BGSE	Basic General Secondary Education
CIDA	Canadian International Development Agency
CSE	Complete secondary education
ETF	European Training Foundation
EU	European Union
HE	Higher education
HEI	Higher educational institutions
ICT	Information and communications technology
ISCED	International Standard Classification of Education
MES	Ministry of Education and Science of Ukraine
NQF	National Qualifications Framework
PES	Public Employment Service
PPP	Purchasing power parity
SME	Small and medium-sized enterprise
VET	Vocational education and training
VET School	Vocational-technical school
WTO	World Trade Organisation

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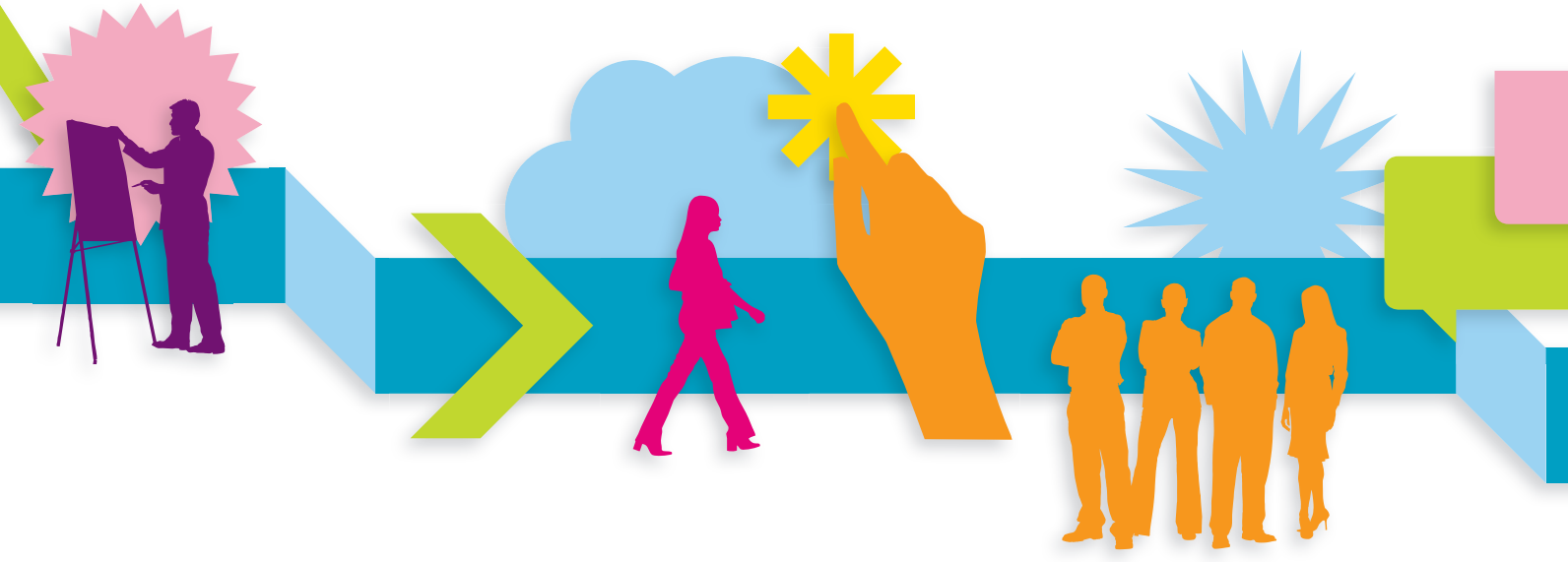
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