

Adapting Green Skills to Vocational Education

(LLP - Leonardo Da Vinci partnership project)

What is the situation on vocational education in partner countries about the green jobs?

Vocational education and training system in the Czech Republic

In the Czech Republic, the Ministry of Education, Youth and Sports is responsible for the organisation, management and development of the educational system and issues internal regulations in the Official Journal of the Ministry of Education, Youth and Sports. In the fields related to the labour market and career counselling, it cooperates with the Ministry of Labour and Social Affairs, and in other areas with other ministries, such as Ministry of the Interior, Ministry of Defence and Ministry of Health.

The Ministry of Education, Youth and Sports is also responsible for formulating of long-term policy objectives of education and development of the education system. The strategies and objectives are regularly updated every 4 years. Currently, the Ministry of Education, Youth and Sports is following strategy for the years 2011-2015. In the Czech Republic the education and training can be divided into two phases:

- Initial education
- Continuing education.

Initial education

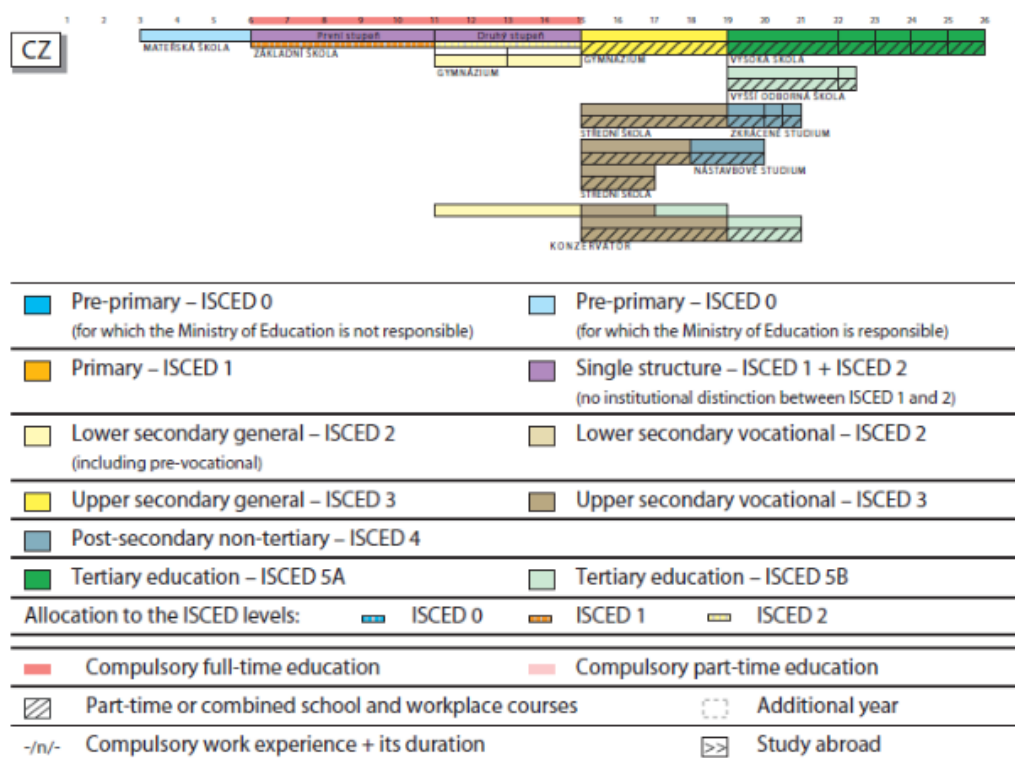
Initial education system is furtherly divided and includes (see the picture below)

- preschool education (pre-primary level – ISCED 0),
- primary and lower secondary education (ISCED levels 1 and 2), which is of a general nature and covers the period of compulsory education;

- vocational character, and leads to a qualification with school leaving exam (ISCED 3A), with apprenticeship certificate (ISCED 3C), or final exam (ISCED 3C). Part of secondary education in the Czech Republic is supplemental study (ISCED level 4), for students who already have a secondary qualification with an apprentice certificate, which ends with a school leaving exam;
- tertiary education (ISCED levels 5 and 6), which includes a wide spectrum of programmes which generally require a school leaving exam. This includes education at institutions of higher education, vocational or general, and the later years of conservatories.

The initial education system of the Czech Republic includes nursery schools, primary schools, secondary schools (gymnasia and vocational upper secondary schools), conservatories and higher education institutions, vocational and non-vocational. The organisation of the initial education system in the Czech Republic is described in the following diagram.

Picture n°1: Description of the Czech national education system



Source: Eurydice.

Further and more detailed information and concrete description of particular degrees and levels are described in the national document *The Education System in the Czech Republic* elaborated by the Ministry of Education, Youth and Sports¹.

Continuing education and training

Continuing education starts with the completion of a particular educational level and entry into the labour market. Continuing education can be directed to a diverse spectrum of knowledge, skills and competences for use in professional, civic or personal life. Continuing education is not disconnected from the rest of the education system, but rather is closely tied to it, and refers to the levels of initial education.

Training and educational programmes in continuing education can be divided as following:

- Retraining courses
- Approved courses (other than retraining), also called as accredited courses
- Education required by regulations - these regulations were formerly used in fields where employment in certain occupations required a demonstrated understanding of certain norms.
- Continuing education programmes of public tertiary institutions.

What are the measures taken in your country's VET strategy for energy efficiency? (Which skills reidentification, change in modules, Etc.) (We mean what do the authorities in your country do in your VET system for green skills) (Changes in legislation) (max 1-2 pages)

According to the researches conducted by the Ministry of Environment and analysed in the National Programme of Environmental Education and Awareness in the Czech Republic², the

¹ <http://www.msmt.cz/mezinarodni-vztahy/the-education-system-in-the-czech-republic>

Czech population is not sufficiently informed about the principles (permanently) and sustainable development and is not sufficiently prepared for the practical application in the VET and work life. The Ministry of Environment therefore continuously creates conditions leading to systematic support of green skills and environmental education and awareness. Currently, requirements for environmental education influenced the creation of curriculums in schools and textbooks in some subjects, especially natural sciences, homeland, natural history, geography and civics. More recently used the term "sustainable development" penetrated into teaching documents and textbooks only partially. The problem remains interconnection diffuse knowledge and formation of an integrated view on the issue.

NGOs and other educational organisations play an important role in promoting environmental education and awareness. Some of the NGOs closely cooperate and are partly supported by the Ministries of Environment and Education, Youth and Sports. A key problem limiting environmental education and green skills training is lack of qualified trainers or inadequate readiness of the teachers.

Concerning the business sector, it is one of the key actors of the environment. In this field Ministry of Environment and Trade and Industry play very important role and obliged the corporate sector to invest in environmental protection, which was caused by the new environmental legislation of the early 90s. In this period legal awareness of the need to protect environment increased and naturally awareness and educational activities and information activities were spread by consultants and suppliers of environmental technologies, who seized the topic of environmental protection as their business opportunity. Series of professional training consultants, small and medium-sized businesses in environmental protection, were retrained and further training of larger numbers of people.

The public environmental education is mainly ensured by institutions of the state administration in the field of environment and some other institutions, eg. universities, professional scientific institutes, medical or cultural educational facilities and more. An

² [http://www.mzp.cz/C1257458002F0DC7/cz/strategie_dokumenty_evvo_cr/\\$FILE/OEV-OVO_SP%20EVVO-20081105.pdf](http://www.mzp.cz/C1257458002F0DC7/cz/strategie_dokumenty_evvo_cr/$FILE/OEV-OVO_SP%20EVVO-20081105.pdf)

important role is also played by non-governmental non-profit organizations, especially civic associations or specialized professional associations and societies and their environmental, agricultural or medical consulting facilities. Educating the public on the work and efficiently to operate a specialized firm in environmental protection (waste management, energy, etc.). Greater emphasis is currently being placed on public participation in decision-making in environmental matters and community cooperation and training programs focused on healthy lifestyle.

National strategy objectives and tools

The main objective of the Czech national strategy for green skills and environment education is to create a complex functioning system of environmental education and awareness in the Czech Republic, which will positively influence the company's approach to become more environment-friendly, and as a result it is also demanded to reduce the costs necessary for the environment and public involvement in tackling and resolving environmental problems.

The education and training of environmental issues are implemented in the legislation tools below:

- Law no. 17/1992 Coll., on the environment,
 - Act no. 114/1992 Coll., On nature and landscape protection,
 - Act no. 244/1992 Coll., On environmental impact assessment (EIA)
 - Act no. 123/1998 Coll., On the right to information on the environment,
 - Act no. 106/1999 Coll., On free access to information,
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- Act no. 242/2000 Coll. on organic farming and amending

- Government Resolution - Action Plan for environmental education in the Czech Republic

What is the strategy in your country on green skills education?

The national Strategy of Environmental Education and Awareness³ in the Czech Republic focus on three main areas:

- Environmental education and awareness in public sector
- Environmental education and awareness in initial education
- Environmental education and awareness in the business sector

Environmental education and awareness in public sector

Objectives:

- Ensure appropriate education and awareness of employees in all departments and at all levels of public administration.
- Ensure environmentally friendly behavior and attitudes of public servants during working process
- Ensure systematic and effective communication, participation and active influencing public leading environmental behavior
- Ensure cooperation with foreign partners.

³ [http://www.mzp.cz/C1257458002F0DC7/cz/strategie_dokumenty_evno_cr/\\$FILE/OEV-OVO_SP%20EVVO-20081105.pdf](http://www.mzp.cz/C1257458002F0DC7/cz/strategie_dokumenty_evno_cr/$FILE/OEV-OVO_SP%20EVVO-20081105.pdf)



Activities

- To create differentiated model educational programs - for various professional groups of employees, for different target groups of public administration.
- To update programs according to the real state of the environment. Leading educational databank programs, including information on the qualifications of trainers.
- To set priority tasks of environmental protection and inform the appropriate form other
- ministry. The relevant ministries will ensure development of model training programs for its resort and provide environmental education for its employees.

The strategy also indicates concrete steps on the particular level of the public administration, the detailed plan is described in the National Strategy.

Environmental education and awareness in initial education

The main aim of environmental education in initial education is to teach the next generation to live according to the principles (permanently) sustainable development.

Objectives

Through education provide all children and young people with:

- knowledge, skills and habits necessary for environmental protection and understanding of the principles (permanently) sustainable development;
- conditions for integration of knowledge in particular by applying practical teaching methods,
- structuring the curriculum and various activities affect the mindset, developing independence and creativity, contacts with the environment and with professional experience and overall personality development in terms of (permanent) sustainable development,

- to promote collaboration between schools and extracurricular areas - with family, with municipalities (public administration), with businesses (especially important for vocational schools) to promote active care for the environment, cooperation extracurricular work with environmental education, with NGOs, with awareness and culturally educational institutions, the media,
- ensuring the gradual innovation and skills acquired undergraduate studies,
- ensuring conditions for changes to the original focus of the needs of practice for the care of the environment, the requirements of practice to prepare and support the retraining studies focused on environment, especially in regions with lower employment

Activities

Following activities should be implemented:

- informing teachers and educational management staff on the importance of environmental concepts and solutions education and training,
- to develop relevant curricula, methodological suggestions and recommendations, and teaching resources
- promoting systematic environmental education and education for all kinds and types of primary, secondary and higher vocational schools, including organizational arrangements, experience in schools oriented environment extend to the entire network of other schools
- to influence the school environment, their surroundings and secure operation of schools environmentally friendly and saving natural resources,
- in the area of environmental protection to develop mutual cooperation between schools and their cooperation with extra curricular devices

- improving the skills of teachers and other educational personnel for environmental education and training
- to emphasize learning environment and direct contacts with living nature

Environmental education and awareness in the business sector

The business sector and companies have very specific position in the national strategy. The fundamental difference is the need to avoid interfering with the competitive environment by direct state-supported activities.

Objectives

Due to the needs of the Czech Republic and declared priorities of the European Union, it is important to assist in environmental education of workers and management in environmental protection while supporting the competitiveness of our businesses in foreign markets. The means may focus on national and international programs of friendly production and certification of production, products and services. The aim is to achieve higher legal and professional awareness of business representatives on issues of nature and environment protection and increase communication with state organizations and the public authorities (in the sense of public scrutiny and open information).

Activities

- Encouraging businesses to a wider public involvement in decision-making on planned activities.
- Promoting activities of enterprises and their associations towards their greater openness of information.
- Professionally promote awareness campaigns in the media (mass media) for the enterprise and trade unions and conduct of the corporate sector,
- Highlighting positive examples and warnings negative cases
- Encouraging the administration's most outspoken corporate reporting on environmental impact,
- Following the regional development strategies and plans
- Negotiation of the above standard approach in specified areas

- Informing the government about the environmental activities of enterprises, their tracking methods about the possibilities of evaluating and promoting collaboration community - the enterprise.
- Orientation of environmental education for employee union and professional organizations

Transnational mobility of professions in your country from other European countries. Your country's legislations, regulations. (max 1 page)

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- Government Resolution - Action Plan for environmental education in the Czech Republic

What are the most related occupations in your country on green skills. What kind of education is given to these trainees?

Name of The Occupation	ISCO-08	ISCO-08 Title
Environmental Engineer:	2143	Environmental engineers
Graduate Needed? And entry level qualifications to VET? How many years training?		<ul style="list-style-type: none"> - Bachelor or Master Degree - 3 or 5 years of training/education
Info about the skill's link to green economy		<ul style="list-style-type: none"> - Ensuring awareness, educational activities in the field of environmental protection in the management and control of the activities of the relevant section of the environment within the scope of self-governing Authority - Exploitation of research and applied ecology - Orientation in the legislation in the field of ecology - Processing of materials forecasting environmental - Orientation of standards and norms for air, water, waste and waste management - Keeping documentation and databases in the enterprise ecology - Creation and update of corporate environmental measures - Methodological management in water management, air protection and waste management - Analysis and evaluation of the situation and the level of technological processes in terms of environmental impact
Is their training sufficient in your VET system (Quality of education)		Yes Note: Continuous training professional development needed
Is the number of graduates enough or there is a lack of labour		Yes
Skills level (EQF)		Level 6 or 7
Implementations on continuous training (Training of workers)		Organised by the workers or employers
Any comment		NA

Name of The Occupation	ISCO-08	ISCO-08 Title
Energy auditor:	2133	Environmental Protection Professionals
Graduate Needed? And entry level qualifications to VET? How many years training?		<ul style="list-style-type: none"> - Master degree - 5 years of education/training
Info about the skill's link to green economy		<ul style="list-style-type: none"> - Management and control of public administration in the scope of TSU. - Conceptual processing and forecasting materials in the appropriate environment for USC. - Deciding on appeals to the decisions of designated authorities and municipal authorities with extended powers. - Calling exceptions in the field. - Imposition of fines to the extent prescribed by regulations. - Coordinating the assessment of environmental impact. - Responsibility for budget and efficiency in the use of allocated

	<p>funds.</p> <ul style="list-style-type: none"> - Collaboration with employers, government authorities and other institutions in addressing environmental problems. - Receiving, examining and handling complaints, petitions, complaints and notifications citizens. - Awareness, education and prevention activities in the field of environmental protection. - Management of the relevant documentation.
Is their training sufficient in your VET system (Quality of education)	Yes Note: Continuous training professional development needed
Is the number of graduates enough or there is a lack of labour	Yes
Skills level (EQF)	Level 7
Implementations on continuous training (Training of workers)	Activities officials governments - special professional competence and continuous training under the Act 312/2002 and Decree 512/2002 MV
Any comment	NA

Name of The Occupation	ISCO-08	ISCO-08 Title
Transport vehicle emissions inspectors:	3115	Mechanical Engineering Technicians
Graduate Needed? And entry level qualifications to VET? How many years training?	Bachelor degree; 3 years of education/training	
Info about the skill's link to green economy	<ul style="list-style-type: none"> - Writing relevant technical standards documentation. - Preparing the relevant technical documents for approval of the product. - Implementation of testing prototype products in business or government, or international laboratories. - Developing technical description and instructions for use of products. - Implementation of change management complex products. - Processing design solutions engineering products based on proposals or starting projects. - Individual creative and design solutions to complex types, models, shapes and designs products, their group or with respect to the relevant technical standards. - Performing basic technical computing components, analysis of proposed solutions using computer technology, compared with the technical assignment. - Organizations collaborators in ensuring compliance with the terms of design documentation. - Cooperation with related departments - technology, production, purchasing, subcontracting. 	
Is their training sufficient in your VET system (Quality of education)	Yes Note: Continuous training professional development needed	
Is the number of graduates enough or there is a lack of labour	NO, there is a lack of qualified workers	
Skills level (EQF)	Level 6	
Implementations on continuous training (Training of workers)	Organised by the workers or employers	
Any comment	NA	

Name of The Occupation	ISCO-08	ISCO-08 Title
Solar photo voltaic installers:	7413	Electrical line installers and repairers
Graduate Needed? And entry level qualifications to VET? How many years training?		Secondary vocational education 3 or 4 years of training/education
Info about the skill's link to green economy		<ul style="list-style-type: none"> - Installation, reconstruction, repair and maintenance of overhead and cable electricity networks. - Installation, reconstruction, repair and maintenance of electrical stations. - Installation management, maintenance, repair and reconstruction of the power grid. - Management of the relevant documentation.
Is their training sufficient in your VET system (Quality of education)		Yes Note: Continuous training professional development needed
Is the number of graduates enough or there is a lack of labour		No, there is a big lack and great demand after these workers.
Skills level (EQF)		Level 3
Implementations on continuous training (Training of workers)		Separate activities on electrical installations - professional competence by 50/1978. and Decree no. 202/1995 Sb.
Any comment		NA

Name of The Occupation	ISCO-08	ISCO-08 Title
Electricians:	7411	Building and related electricians
Graduate Needed? And entry level qualifications to VET? How many years training?		Minimum secondary vocational education 3 years of training/education Another alternative is secondary education with GCSE group degree in Electrical Engineering (4 years)
Info about the skill's link to green economy		<ul style="list-style-type: none"> - Wiring boxes and devices. - Milling of grooves for conductors pockets boxes. - Management of the relevant documentation. - Implementation of the pipe, bridge, trunking and industrial electrical installations. - Measurement circuits. - Electric line and its mounting. - Workflows, tools and methods. - Function testing of electrical installations. - Maintenance of electrical installations. - Registration of technical data on the progress and results of the work.
Is their training sufficient in your VET system (Quality of education)		Yes Note: Continuous training professional development needed
Is the number of graduates enough or there is a lack of labour		No, there is a big lack and great demand after these workers.
Skills level (EQF)		Level 3 or 4
Implementations on continuous training (Training of workers)		Separate activities on electrical installations – professional competence by 50/1978. and Decree no. 202/1995 Sb., every two year they have to pass an exam in order to continue with this occupation
Any comment		NA

Name of The Occupation	ISCO-08	ISCO-08 Title
Insulation workers:	7124	Insulation workers
Graduate Needed? And entry level qualifications to VET? How many years training?		<ul style="list-style-type: none"> - secondary education with a vocational certificate in the field insulator, insulation work - 3 years of training/education
Info about the skill's link to green economy		<ul style="list-style-type: none"> - Manufacture, installation and repair of thermal insulation pipes, bends and various bodies insulating materials coated foil, cardboard or sheet metal. - Execution of thermal insulation cooling and freezing insulation boards. - Production and assembly finishes thermal insulation sheeting (pipes, tanks fronts, intricately shaped body with many intersections, flashing removable, detachable sleeves fittings, valves, bends, pipes and radiators).
Is their training sufficient in your VET system (Quality of education)		Yes
Is the number of graduates enough or there is a lack of labour		Yes
Skills level (EQF)		Level 3
Implementations on continuous training (Training of workers)		Organised by the workers or employers
Any comment		NA

Name of The Occupation	ISCO-08	ISCO-08 Title
Refuse collectors:	9611	Garbage and recycling collectors
Graduate Needed? And entry level qualifications to VET? How many years training?		Primary or secondary school 3 years in the case of secondary schools
Info about the skill's link to green economy		Collecting and recycling collected garbage taken from buildings, courtyards, streets and other places waste and recyclable items.
Is their training sufficient in your VET system (Quality of education)		Yes
Is the number of graduates enough or there is a lack of labour		Yes
Skills level (EQF)		Level 1 to 3
Implementations on continuous training (Training of workers)		NA
Any comment		NA

Name of The Occupation	ISCO-08	ISCO-08 Title
Amenity Horticulturist/ Horticultural Consultant/ Arboriculturist	6113	Gardeners, horticultural and nursery growers
Graduate Needed? And entry level qualifications to VET? How many years training?		secondary education with a vocational certificate in a group of fields of agriculture and forestry 3 years of training/education
Info about the skill's link to green economy		Gardeners and growers plan, arrange and perform tasks related to growing and harvesting crops and fruit growing in the fields, trees or shrubs, growing vegetables, medicinal and other plants, horticultural products and seedlings for regular sales and deliveries for wholesalers and trade organizations or for sale markets.
Is their training sufficient in your VET system (Quality of education)		Yes
Is the number of graduates enough or there is a lack of labour		Yes
Skills level (EQF)		Level 3
Implementations on continuous training (Training of workers)		Organised by the workers or employers
Any comment		NA

Name of The Occupation	ISCO-08	ISCO-08 Title
Agricultural Consultant/ Agricultural Engineer	3142	Agricultural technicians
Graduate Needed? And entry level qualifications to VET? How many years training?		Secondary education with school leaving exam
Info about the skill's link to green economy		Technicians in the field of agriculture, fisheries and water management conduct tests and experiments, and provide technical and professional support for scientific, and qualified managers in the field of agriculture.
Is their training sufficient in your VET system (Quality of education)		Yes
Is the number of graduates enough or there is a lack of labour		Yes
Skills level (EQF)		Level 4
Implementations on continuous training (Training of workers)		NA
Any comment		NA

Name of The Occupation	ISCO-08	ISCO-08 Title
Architect	2161	Buildings Architect
Graduate Needed? And entry level qualifications to VET? How many years training?		- Bachelor or Master Degree - 3 or 5 years of training/education
Info about the skill's link to green economy		Architects, specialists in urban planning, design and related workers plan and deal with the design of landscapes, interiors and exteriors of buildings; products into production, and visual and audiovisual transmission of information. Also carried out surveys to accurately locate geographic features, as well as propose a revised process maps and process and implement plans for land use.
Is their training sufficient in your VET system (Quality of education)		Yes Note: Continuous training professional development needed
Is the number of graduates enough or there is a lack of labour		Yes
Skills level (EQF)		Level 6 or 7
Implementations on continuous training (Training of workers)		Organised by the workers or employers
Any comment		NA

Name of The Occupation	ISCO-08	ISCO-08 Title
Architectural Technician	216	Architects, planners, surveyors and designers
Graduate Needed? And entry level qualifications to VET? How many years training?		- Bachelor or Master Degree 3 or 5 years of training/education
Info about the skill's link to green economy		Architects, specialists in urban planning, design and related workers plan and deal with the design of landscapes, interiors and exteriors of buildings; products into production, and visual and audiovisual transmission of information. Also carried out surveys to accurately locate geographic features, as well as propose a revised process maps and process and implement plans for land use.
Is their training sufficient in your VET system (Quality of education)		Yes Note: Continuous training professional development needed
Is the number of graduates enough or there is a lack of labour		Yes
Skills level (EQF)		Level 6 or 7
Implementations on continuous training (Training of workers)		Organised by the workers or employers
Any comment		NA

Name of The Occupation	ISCO-08	ISCO-08 Title
Biomedical Engineer	2149	Engineering professional not elsewhere categorised
Graduate Needed? And entry level qualifications to VET? How many years training?		Master's degree program in Applied Sciences in Engineering 5 years of training/education
Info about the skill's link to green economy		Specialists in manufacturing, construction and related fields propose, plan and organize the testing, construction, installation and maintenance of buildings, machines and their parts and production systems and sets a plan production schedules and working procedures to ensure the safety, effectiveness and efficiency of engineering projects.
Is their training sufficient in your VET system (Quality of education)		Yes Note: Continuous training professional development needed
Is the number of graduates enough or there is a lack of labour		There is lack of these positions on the labour market
Skills level (EQF)		EQF Level 7
Implementations on continuous training (Training of workers)		Organised by the workers or employers
Any comment		NA

Name of The Occupation	ISCO-08	ISCO-08 Title
Community Development Worker/ Community Education Officer	3412	Social work associate professionals
Graduate Needed? And entry level qualifications to VET? How many years training?		Secondary school 4 years of secondary school with school leaving exam
Info about the skill's link to green economy		Skilled workers in social work to manage and carry out social assistance programs and provide community services and help clients in solving personal and social problems.
Is their training sufficient in your VET system (Quality of education)		Yes
Is the number of graduates enough or there is a lack of labour		High number of graduates, that the labour market is not able to absorb
Skills level (EQF)		EQF Level 4
Implementations on continuous training (Training of workers)		Organised by the workers or employers
Any comment		NA

All ISCO-08 codes from

ILO (International Labour Office). 2012. **ISCO-08 vol. 1: International Standard Classification of Occupations – structure, group definition and correspondence tables.**

Geneva: ILO.