



Pure –H2O Skills Passport

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Contents

Pure –H2O Skills Passport	1
1. Introduction.....	3
2. <i>Functions and impact of the EU tools</i>	3
2.1 The European Qualifications Framework.....	4
2.2 ECVET.....	5
2.3 EQAVET.....	6
3. <i>European Skill Passport</i>	6
3.1 History of the European Skill Passport	7
3.2 Currently Existing Europass Documents.....	8
3.3 Importance of Using Europass Documents for Individuals	9
3.4. Usage of Europass Documents	10
3.2.1 Europass Curriculum Vitae	11
3.2.2 Europass Language Passport	12
3.2.3 Europass Certificate Supplement	13
3.2.4 Europass Mobility.....	13
3.2.5 Europass Diploma Supplement.	14
3.2.6 Relation with the Europass and EQF / ECVET	14
4. <i>Eoropass Certificate Supplement for the Water Sector Professions</i>	15
4.1 A guide of Europass Certificate Supplement for VET professionals	16
4.1.1 Box 1 Title of the Certificate	16
4.1.2 Box 2 Translated title of the certificate.....	17
4.1.3 BOX 3 Profile of skills and competences	17
4.1.4 BOX 4 Range Of Occupations Accessible To the Holder of the Certificate.....	24
4.1.5 BOX 5 Official basis of the certificate	25
4.1.6 BOX 6 Official Basis of the Certificate.....	26
References	28
Appendix 1: Indicator of knowledge, skill and competence of H2O Project for the Sectoral Reference Groups.....	29
Appendix 2: Europass certificate supplement.....	35

1. Introduction

Today, during the period which is named as information revolution, factors like education, knowledge, skills and human capitals became the basic that increases the welfare level and source for the economic growth. In this period, also called information age; around the developing and growing world, it is not enough for the workers to get a diploma for a professional life, so these people have to renew and update their skills in accordance with today's qualifications.

Because of this reason, today, lifelong learning is perceived as a lifestyle. A profession based training which is one of the cores of lifelong learning perception is accepted as being important by workers, employees and companies. Profession training and education contains all the activities in order that one person gets the necessary skills, knowledge and information for a job or job group. Individual profession training enables an individual get ready for work-life, increase his/her eligibility for companies by bridging theoretical education and the occupational area. Beyond working life, it supports development of the individuals in other areas of life and supports their active skills in life. In terms of society, profession training gives strength to economic development, decreases poverty and increase social inclusion and integration.

In this context, today presenting training and professional training internationally and providing a European skills and capability area for individuals to move freely to get a job or more training have become the main target. For this reason, in order to develop partnerships for Professional training in Europe, some instruments have been developed. Europass, Youthpass, European Qualification Framework (EQF), Educational Credit Transfer in Vocational Education Training, (ECVET), Educational Quality Assurance in Vocational Educational Training (EQAVET), and networks through EU in order to support these materials can be counted between these instruments. The basic idea behind these transparent instruments is to develop policies in order to increase the number of these for a lifelong education and training, to apply them, assess them; to continue to give extensive education and training and distant training services. It can be considered as training people who drop out of school at any level or who never attend to school, for general vocational or technical areas. This instrument must be assessed from more holistic approach. Because each of them is a natural adding to another. There is a synergy between them.

In this study, first of all, these instruments will be identified. After that, European skill passport will be handled in a detailed way. Finally, European Skills Passport usage will be explained by means of the studies for using skills in terms of ECVET and EQF which is done under H20 project and skill passport usage will be made clear for the one who works in the water sector as a trainer/professionals and how their skills can be reflected to Europass Certificate Supplement will be explained.

2. Functions and impact of the EU tools

The general aim of Common European tools is to make skills and capabilities defined easier in the working area, in all subsystems of education and training within the national borders. With these tools, education and training policies were aimed to integrate with the work-area better and by resulting in more mobility, it is aimed to get basic goals in education and employment area which are stated in Europe 2020 goals. These tools basically focus on the outcomes of; knowledge, skill and

competency trainings; contributes to equal adaptation for all needs of all training areas; and aims the mobility of individuals in Europe.

The tools can function as:

- Catalysts for change mind-sets;
- Drivers of developments needed to support lifelong learning;
- Devices to promote cooperation across stakeholders, peer review and benchmarking;
- Instruments to speed up reform and maintain momentum;
- References for quality;
- Enablers for establishing mutual trust;
- Meta-frameworks (EQAVET 2011).

2.1 The European Qualifications Framework

On EU level, there are many studies in order to provide training and skill gaining mobility between countries. The lifelong training program aimed to gather all programs and activities about general, vocational and technical education under one roof with a holistic approach. In this context, in 2008, European Union Council, in order each individuals' skills to be accepted within all UE countries easily, and capability frames to be related to each other, they decided to establish EQF. In this sense, The European Qualifications Framework (EQF) is one of a series of instruments developed to support European cooperation in education and training (other instruments include EQAVET, ECTS, NARIC and Europass). The aim of the EQF is to make qualification systems in the member states, transparent and qualification level comparable. EQF is believed to have an important role in accepting skills and transferring them and providing worker and student mobility and increasing the number of people that attend to lifelong trainings.

According to European Council decisions, EU countries had to be related to their national capabilities to the EQF levels till 2010 and by 2012, they need to do anything to get each capability certificate, had to hold a reference that is acceptable by EQF levels. Hitherto, a lot of countries have been committed to linking their national qualification systems to the EQF to make easier recognition of qualifications across Europe. But that has not happened yet at all. About half of the Member States have lined up their qualification levels with those of the EQF.

As to EQF; it can be applied to each skill that are gained at each level, general, occupational, technical and university education. The emphasis on learning outcomes is rightly identified with the need to define such outcomes within an inclusive approach to lifelong learning, rather than to be tied to particular kinds and phases of institutions, curricula and qualifications (CEDEFOP 2009). On level definitions, the reference European Qualification Frame (EQF) has eight qualification levels. Each level consists of a combination of knowledge, skills and compatibility. These levels have a wide area from the beginning level (level 1) to advanced level (level 8). Generally, expected knowledge, skills and compatibilities are increased as the level increased. For example, an individual with the 6th Level is expected to have more skills, knowledge and compatibility than the one with the 5th Level. Knowledge, Skills and Competence are the basic elements of reference levels. Equivalence acceptance of the training gained from other than schools has a most importance here. From the point of knowledge, skills and competency which will serve for European Credit System development's horizontal dimension for VET which is behind the terminology that has to be developed for vocational Knowledge, Skills and competency under the scope of EQF, VET's qualitative results.

- **Knowledge:** Under EQF knowledge defined as theoretical and practical. Knowledge is the total of cases, principles, theories and experiences related to any research, study and training area. It can be defined as theoretical or practical. Knowledge is a product of data that internalized by learning. Knowledge consists of principles, approaches, and realities about a study or occupational area.
- **Skill:** Means transferring knowledge into practice, filling duties by using technical knowledge and solving problems. In other words, skill is the talent for practicing the knowledge, finishing the duties and using know-how in order to solve the problems. There is a difference between theoretical and practical skill. It is defined as cognitive (sensitive and creative thought usage) and practicing (hand craft, technical, material, tool and machine usage)
- **Competency:** Within the commission suggestion for recommendation of the European Parliament and European Council, competency is defined as the proved talent for knowledge and skill usage. Competency means using knowledge, skill and opportunities within occupational and individual development and learning and working areas. At the same time, it also means being able to take responsibilities and work independently.

2.2 ECVET

European Credit System for Vocational Education and Training (ECVET) is a system which aims to provide collaboration through Europe for vocational training and education. ECVET, basically, aims to make the acceptability of individuals' skills and competencies that they gained in another country easily within the scope of EU vocational and technical education systems which have many parts. So, ECVET follows a method in which skills are defined with credit points which can be accumulated and transferred. Therefore, international vocational qualification companies can adapt the credits that are gained in other countries in their own vocational qualification courses. In this sense, one main principle is the use of learning outcomes described as they are the basis for credit transfer and accumulation. Thus, it works hand in hand with the European Qualifications Framework (EQF) to provide greater transparency in European qualifications, promoting the mobility of workers and learners, and facilitating lifelong learning.

It was started to develop after the successful results of college credit transfer system that was established in 1989. On November 30th, 2002, in order to increase partnerships for vocational training and education in Europe, Copenhagen Declaration was published. In the Declaration the priority that will be given to credit system for vocational training and education reported as 'an important mutual application in order that skills, competencies gained in other countries can be accepted in Europe, in order to compare levels, transfer and support the transparency. Pilot studies for ECVET started in 2009.

ECVET's successful application within the EU countries will result in increasing the international transference for vocational and technical education and will make the system more flexible. Besides the increase in international activities and horizontal and vertical transfers in the educational system, ECVET is accepted to have an increasing role in the equal Access chance to the lifelong trainings.

ECVET presents some principles, rules and standards consistently, and aims to fulfill the goals listed below.

- make it easier for people to get validation and recognition of work-related skills and knowledge acquired in different systems and countries

- make it more attractive to move between different countries and learning environments
- increase the compatibility between the different VET systems in place across Europe, and the qualifications they offer
- increase the employability of VET graduates and the confidence of employers that each VET qualification requires specific skills and knowledge (URL 1).

2.3 EQAVET

EQAVET, which was adopted by EU Member States in June 2009, providing the means of collaboration between countries to make quality assurance systems more transparent and to provide common quality criteria and indicators. Therefore, EQAVET is a reference tool for policy-makers based on a four-stage quality cycle that includes goal setting and planning, implementation, evaluation and review. It provides guidelines and indicators to assure high quality VET. The EQF and EQAVET operate at the systematic level. EQF define transparency and comparability of qualifications, in accordance the EQAVET is a reference system for quality assurance. Hence, by supporting quality assurance, EQAVET provides a basis for confidence and trust national VET qualifications and their international comparison through the EQF.

The EQAVET approach of input-output-outcome provides a way of turning what might be an ad hoc collection of data into indicators (since the key aspects of VET are related to each other and assists in both the interpretation of data and its use as evidence).

EQAVET Indicators:

- Indicator 1. Relevance of quality assurance systems for VET providers
- Indicator 2. Investment in training of teachers and trainers
- Indicator 3. Participation rate in VET programmes
- Indicator 4. Completion rate in VET programmes
- Indicator 5. Placement rate in VET programmes
- Indicator 6. Utilisation of acquired skills at the workplace
- Indicator 7. Unemployment rate
- Indicator 8. Prevalence of vulnerable groups
- Indicator 9. Mechanisms to identify training needs in the labor market
- Indicator 10. Schemas used to promote better access to VET (URL 2)

Today EQAVET approach becoming established in most countries through a common data gathering process and reporting systems.

3. European Skills Passport

International mobility instruments for learning and gaining new skills, both results in an increase in the employment possibility of individuals and support their individual developments. These programs have an important role in improving the foreign language skills of individuals and adaptation to new and different cultures and working environments. Moreover, international mobility opens the way

for the educational modernization and makes knowledge and innovation transfers between the countries easier. The EU has set up an ambitious agenda for lifelong learning. A variety of initiatives and instruments have been developed.

Euro passport is an instrument that serves for goals like these. The European Skills Passport, which helps people to assemble their skills and qualifications online, has now been launched by the European Commission. Thus, Europass supports mobility by helping people to communicate their knowledge, skills and competences acquired through education, training or work experience as well as informal settings (CEDFOP 2011).

Moving from this approach the specific objectives of Europass are:

- To help to increase awareness of and access to transparency instruments amongst learners, teachers, trainers, employers and admission staff of educational institutions;
- To improve the communication impact of existing transparency instruments;
- To improve information on issues related to transparency and mobility;
- To inspire the development of additional transparency instruments.
-

The operational objectives of Europass are

- To bring together five documents that have been developed at European level;
- To provide a comprehensive tool for users based on an accessible electronic format;
- To support European policy developments related to the transparency of competencies and qualifications (EC 2013).

In summary, with European skill passport, the employees have pre-information about the individuals they will be employed and can make more proper decisions in the selections, wages and the promotions of these individuals. Employees can show their skills better and have an idea about how they can develop their technical and vocational skills. The occupational and technical training teachers, managers also can have information about the expectations of the labor-force market.

3.1 History of the European Skills Passport

Although the current format for European Skills Passport was launched in 2005, the number of tools with the same objectives existed since the late 1990s. In 1998, the European Commission and the European Centre for the Development of Vocational Training (CEDEFOP) set up the European forum on the transparency of vocational qualifications to bring together social partners with representatives of national training 'Learning outcomes are verifiable statements of what learners who have obtained a particular qualification, or completed a program or its components, are expected to know, understand and be able to do (Bercial at all, 2016).

In summary, the tasks of the forum were:

- To remove obstacles to mobility due to a lack of transparency of vocational qualifications;
- To stimulate dialogue on existing initiatives, instruments and institutions;
- To encourage the implementation of existing political solutions;
- To consider new initiatives (EC 2008).

Europass CV and the Certificate Supplement emerged as a result of the work of the forum. In addition to these two documents The National Reference Points for Vocational Qualifications (NRPS) was established in the same year.

Also, in the late 1990s, another three documents had been created at the European level, namely the Diploma Supplement (European Commission, Council of Europe and UNESCO), the European Language Portfolio (Council of Europe) and Europass Training (European Council) (URL 3).

In 2003, following extensive consultation with national authorities and social partners, the European Commission prepared a proposal for a Decision of the European Parliament and of the Council on a single framework for the transparency of qualifications and competences (Europass), which was adopted by the European Parliament and the Council in December 2004. This decision provides, among others, for the website to be set up (URL 3).

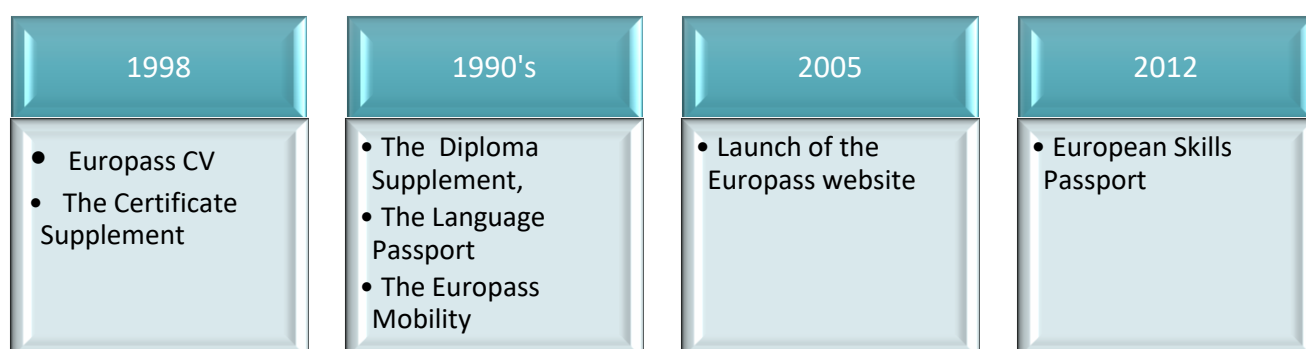
In 2011, The European Skills Passport is one of thirteen actions launched under the Commission's Agenda for New Skills and Jobs, which aims to make Europe's labor markets work better. Also promoted on the Europass website undergoes a radical redesign with a new, modern graphic identity, navigation provides quicker access to the most popular information.

In 2012, a new CV template and online editor is launched. Improvements include:

- more user-friendly online interface with direct preview of the final document;
- new headings: Personal website, Instant messaging, Language certificate(s);
- improved tutorials for better structured information: description of projects, conferences, publications, etc.;
- new graphical identity for better legibility of Europass CV generated: new font, use of colours, simplified headings, etc.

The European Skills Passport is launched together with the new CV. The ESP is a user-friendly electronic folder to help students, workers or job-seekers build up personal, modular inventory of personal skills and qualifications acquired throughout life (URL 4). These developments are presented in the following Figure 1 in the summary.

Figure 1: History of the European Skill Passport



3.2 Currently Existing Europass Documents

European Skills Passport is available for free in 26 languages on the Europass portal where an on-line editor helps users to create their individual passports. It consists of five documents:

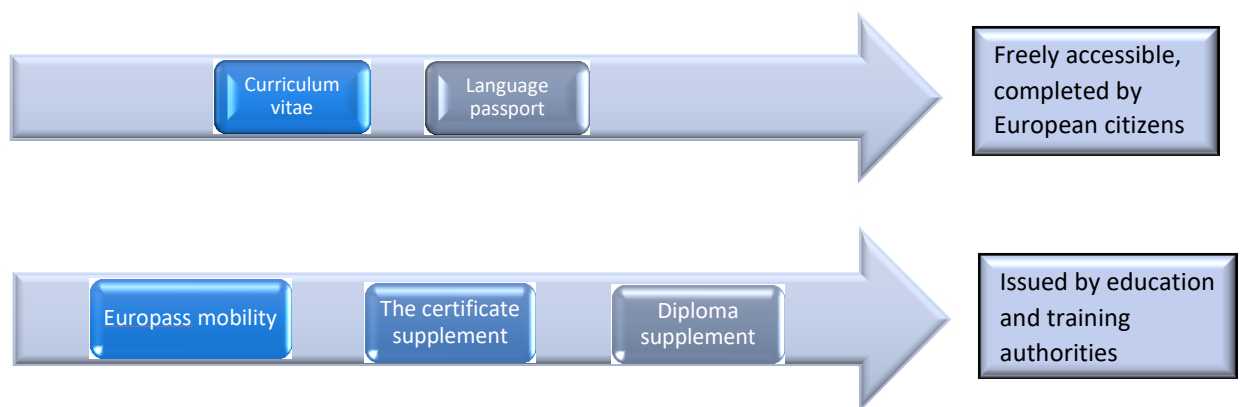
EUROPASS CV
 EUROPASS Language Passport
 EUROPASS Certificate Supplement

EUROPASS Mobility EUROPASS Diploma Supplement.

Europass curriculum vitae (CV), and Language Passport are self-declaratory documents filled in by individuals. Europass Certificate Supplement, Europass Diploma Supplement and Europass Mobility are completed by competent organisations (education and training providers, enterprises, etc.) for documenting formal and not formal learning outcomes. The Europass portal was developed and is managed by Cedefop. Besides providing information on Europass, it allows citizens to complete online their own Europass CV and Europass language Passport.

Europass is being implemented through the network of National Europass Centers (NECs) in 33 European countries. In each country a National Europass Centre coordinates all activities related to the Europass documents. Its main functions are to coordinate the management of Europass documents, to promote Europass and Europass documents, to ensure that information and guidance centers are well informed about Europass and the Europass documents. National Europass Centres work in a European network coordinated by the Commission with the support of Cedefop (URL 4)

Figure 2: European Skills Passport Documents



3.3 Importance of Using Europass Documents for Individuals

- Europass Documents are documents which give emphasis on the stronger sides of individuals and show their skill and competencies.
- Europass CV provides a wide profile by combining the common and informal training gains of individuals.
- Because ECV can be changed any time, it has an archive quality for training experiences of individual trainings.
- Europass CV helps individual step by step while filling a CV.
- Europass Language Passport does not only assess the language qualifications of the individual, but also presents this in a clear and transparent way by using acceptable qualification levels in Europe.
- Europass Movement, tells more than the references taken from the usual jobs/ internships that provide training output definitions. Categories given in tables make people to be sure about all skills and competencies are stated in the document.
- Europass Certificate supplement and diploma supplement help individuals in foreign job applications for defining and presenting their training certificates and diplomas.

- All Europass documents are free of charge and does not contain any commercial purpose.

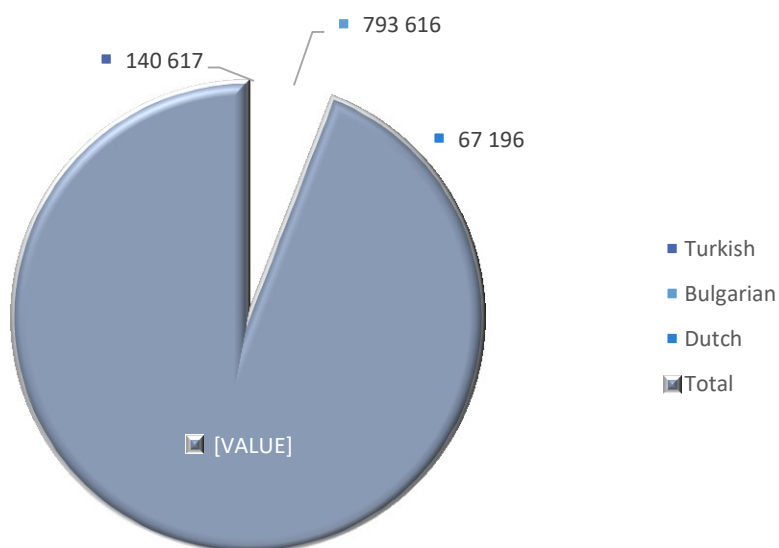
Individuals movement that are trained under these conditions serves for certifications of their lifelong training outcomes; transparency of their competencies; development of the partners that are working in vocational and technical training area in Europe.

3.4. Usage of Europass Documents

Europass generally used across Europe. Europass CV is the most popular of the Europass documents throughout Europe. Since its launch in February 2005, almost 60 million Europass CVs have been generated online. Hundreds of thousands of Europass Mobility, Certificate and Diploma Supplements have been issued. The Diploma Supplement has become more popular following the Bologna process for harmonising higher education programmes. As more people become mobile the use of the Certificate Supplement is increasing. Across Europe, the Language Passport has been completed online by over 842,000 people since launch (EC 2016).

According to Cedefop Europass Statistic reports, 16.142.057 million people have completed online Europass style CV and, Language Passports in 2015. On the other side, when these statistics are examined in terms of the partner countries in the project, it is seen that the numbers of Europass style CV and Language Passport document in Bulgarian are 793.616; in Turkish, they are 140.617 and in Dutch they are 67.196 for 2015. In graph 1 below, these indications were given.

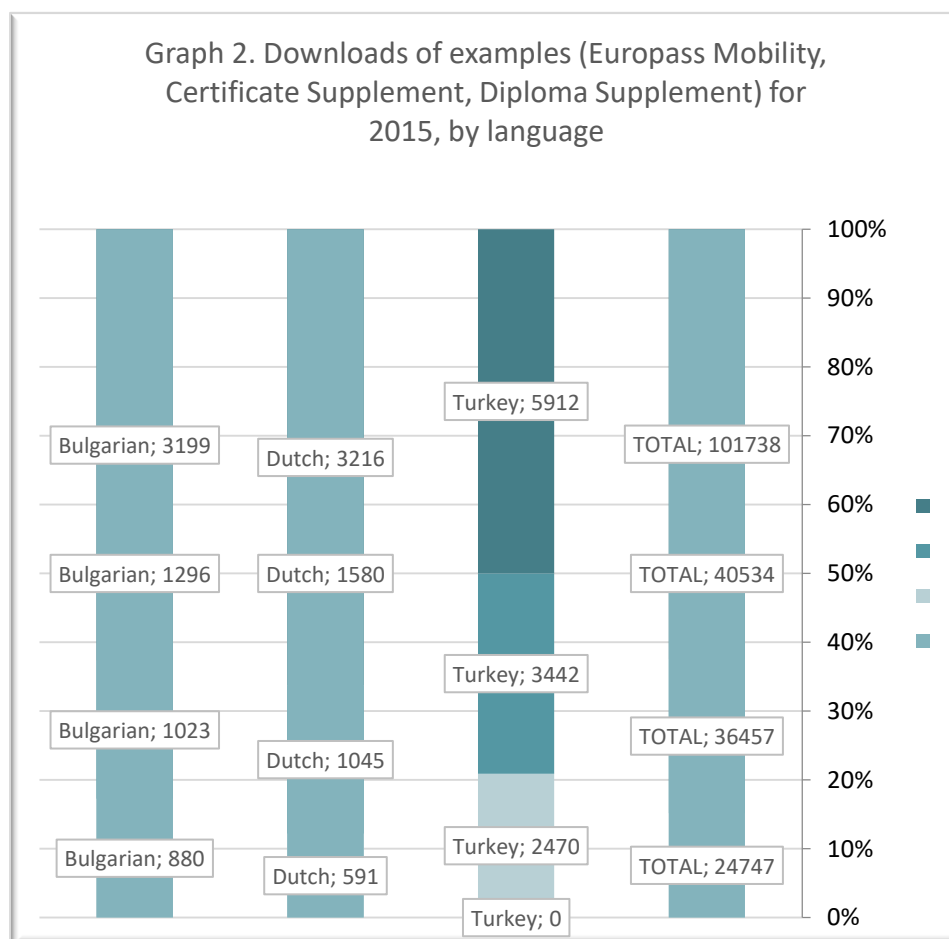
Graph 1: Downloads of Europass CV/ Language Passport documents (2015, by language)



Source: Extracted from Cedefop Europass Activity Report 2015

Total number of Downloads of examples Europass Mobility, Certificate Supplement, and Diploma Supplement is 101.738 for 2015. Within them, the number of Europass mobility (EM) is 36.457, of European Diploma Supplement (EDS) it is 40.534, of Certificate Supplementing (ECS), it is 24.747.

When examined in terms of the languages of the countries that were joined the project, the number of documents downloaded in Bulgarian is 3199; in Dutch is 3216, in Turkish is 5919. In Turkey, it was found that EM (3442 PCs.) was downloaded the most, ECS was downloaded second most (2470), however, EDS was not downloaded at all. When Bulgarian takes into consideration, it is seen that, EDS (1296) was downloaded most, and EM was downloaded the second most (1023). In terms of the Dutch, it is seen that EDS was downloaded the most (1580) EM was downloaded second most (1045 PCs.) and lastly, ECS was downloaded (591). In Graph 2 below, these indicators were given.



Source: Extracted from Cedefop Europass Activity Report 2015

3.2.1 Europass Curriculum Vitae

Europass Curriculum Vitae is a standardized model which allows presentation of individual competency, knowledge and skills in a European - pan style. This instrument is used for job application within the individuals' country or foreign countries and for career development courses. ECV is a personal tool with which an individual organizes in an autonomous way or with the support of a specialist personnel.

ECV adopts innovative options and specialties that can be applied for both the development of unofficial, common and formal training and labor-force market conditions. First of all, ECV does not only focus on the training period of an individual, it also focuses on the specialties that a person

gained from external experiences and that can be helpful for a career. Secondly, ECV allows inclusion of any kind of training that was gained by outer and non official experiences for widening the learning by experiences principle. This is also a result of an approach which focuses more than a sealed career, but a career which is formed by the competencies of the individuals. By means of ECV, it is possible to have a common European language by employers, professional developmental centers, and professionals which give the emphasis on the individual's skills and competencies.

ECV basically serves for the goals listed below;

- Assessing personal skills and competencies and providing validation for them in order to get higher levels of knowledge skill and competency training.
- Relating the training and experience easily
- Defining competency portfolio for both inside and outside goals

When attached to a Europass CV, the European Skills Passport will reinforce the CV by bringing evidence of skills and qualifications listed. Thus, the Passport enables people to improve the presentation of their CVs by bringing together their educational and training certificates in one place, providing evidence for the qualifications and skills declared in the CV by giving a clear and comprehensive picture of the skills and qualifications users refer to in their CVs. (URL 5).

3.2.2 Europass Language Passport

Europass Language Passport was developed by the Council of Europe as one of the three parts of its European Language Portfolio in which can be documented and illustrated experiences and achievements in more detail. The Language Passport can include competence gained both inside and outside formal education. The Language Passport is a self-assessment tool for language skills and qualities. An individual can prepare his or her online language passport by using tables, examples or instructions.

Language Passport provides a review of all the languages can be used to a greater or lesser extent and uses the 6 European levels of the Common European Framework of Reference for Languages. Levels of foreign language knowledge can be A1-A2: basic useable; B1-B2: independent user; C1-C2: proficient user. This may include partial competences in some languages: for example, be able to read in a language but not speak it very well. The Europass Language Passport was designed to be annexed to a CV and contains three sections:

- The self-assessment section, which allows individuals to record the level of language ability according to a well-recognized European Scale (the Common European Framework of Reference for Languages (CEFR). This is particularly useful if the individual does not have a qualification – for example where she/he have grown up in a multilingual household, self-taught, or learned through immersion.
- A language qualifications section, for recording the results of formal language courses
- The 'linguistic experience' section that allows users to record experiences of using languages in practice; for example, working, volunteering or during a study placement in another country (URL 6).

The Language Passport is particularly useful because it seeks to help learners to reflect on their learning objectives, plan their learning and learn autonomously. As regards its reporting function,

the Learning Passport aims to document its holder's language proficiency in a comprehensive, informative, transparent and reliable way. It helps learners take stock of the levels of competence they have reached in one or several foreign languages and enables them to inform others in a detailed and internationally comparable manner. All competence is valued, regardless of whether it is gained inside or outside the ambit of formal education (Farkas 2013).

3.2.3 Europass Certificate Supplement

The Europass-Certificate Supplement is a document attached to a vocational certificate, in order to make it easier for third persons to understand what the certificate means in terms of competences acquired by its holder. It provides information about any vocational education and training such as, on the skills and competences acquired, the range of occupations accessible, the awarding and accreditation bodies, the level of the certificate, the different ways of acquiring the certificate, the entry requirements and access opportunities to next level education

The Europass Certificate Supplement is provided by the relevant certifying authorities. The Certificate Supplement does not replace the original certificate and does not give any entitlement to formal recognition of the original certificate by the authorities of other countries. (URL 7) On the other hand, it facilitates a sound appreciation of the original certificate, so that it can be helpful to obtain recognition from the competent authorities (Farkas, 2013). Examination organizing institutions and other interested parties can give more information at the website of the National Reference Centre operating in the National Employment Office Directorate of Vocational and Adult Education

3.2.4 Europass Mobility

Europass Mobility which is used for Europass Training has wider scope because it can record various experiences from academics to employments in foreign countries. With Europass Mobility, now experiences gained in the academic period, which are not included in Europass training can also be recorded. So, much of the foreign experience can be documented.

Europass Mobility records details of the contents and the results in terms of skills and competencies or academic achievements of a period that a person of whatever age, educational level and occupational status has spent in another European country. Europass Mobility aims to:

- promote European mobility for learning purposes, by making its results more visible;
- boost transparency and visibility of European mobility experiences helping holders to show better what they have gained through this experience, particularly in knowledge, skills and competences; - encourage recognition of the experiences gained abroad (URL 8).

The Europass Mobility document has a 'semi-official' nature (not as official as diploma, not as unofficially as a CV). Individual applicants cannot apply directly. It is usually filled in by two partner organisations. (Siaperas, Tissot 2007). All applications must be made by an organisation on behalf of an individual. Each of the countries involved must be a Member State of the European Union or an EFTA/EEA Country. Any organisation, which organises mobility experiences in the Europass network countries, can apply for Europass Mobility on behalf of individuals. Both organisations agree in writing on the purposes or contents, objectives, duration, methods and monitoring of the Europass Mobility experience, as well as on the language(s) to be used to fill in the Europass Mobility document. The period in another country takes place within the framework of a learning initiative based in the Country of origin of the person (URL8).

3.2.5 Europass Diploma Supplement.

Europass Diploma Supplement is accompanying the diploma awarded from universities and gives more information on University studies, including the subjects studied and the grades achieved. Amongst other goals, the Diploma Supplement and its label were designed to facilitate and stimulate student mobility in the European Higher Education Area. The Diploma Supplement is designed to provide a description of the nature, level, context, content and status of the studies that were successfully completed by the individual named on the original qualification to which the supplement is appended. It should be free from any value-judgements, equivalence statements or suggestions about recognition. The Diploma Supplement provides a common structure to translate qualifications across the EU. It is a flexible, non-prescriptive tool which has been shown to save time, money and workload by an EU working party (URL 9).

Last of all, Transparency and comparability of learning- and work-experience plays an increasingly important role in an expanding European education area and European labor market. With Europass the European Commission has created a 'personal, coordinated portfolio of documents' which helps European citizens present their skills.

3.2.6 Relation with the Europass and EQF / ECVET

The new version of European Europass has emphasized capabilities and skills learned and developed by people in non-formal and informal contexts and focuses on the diploma achieved. One of the most important operational objectives of Europass is to support European policy developments related to the transparency of competences and qualifications. In connection with this Europass documents may record the European Qualifications Framework (EQF) level of acquired qualifications and/or may indicate acquired skills and competencies using the European Credit system for Vocational Education and Training (ECVET) (EC 2103).

The Europass CV system and the Language Passport implicitly necessary to put qualifications in relation to the EQF and ECVET. Because CV enables to make skills and qualifications visible in accordance with provides persons with a model for the systematic, chronological and flexible presentation of their qualifications and competences. And the Language Passport defined in terms of skills and the common reference levels in the Common European Framework. But the Europass CS and the Europass mobility are more directly addressed both in terms of the EQF and ECVET. The Europass CS brief describes the learning outcomes acquired by the holders of a VET certificate. On the other hand, the Europass mobility is a record of a 'European learning pathway', which is an organised period of time that a person spends in another European country for the purpose of learning (for instance, a work placement in a company or in volunteer work, or an academic term as part of an exchange programme). This relationship is shown in the Table 1

Table 1: Relationship of the Europass Document and EQF/ECVET

Europass documents	ECVET	EQF	Nature of the link
CV	+	+	Acquired ECVET units of learning outcomes EQF level of qualifications

Language passport	+		ECVET units related to language certificates
Europass Mobility	+	+	ECVET units (or parts of units) gained during mobility experience EQF level of qualification if relevant
Certificate supplement	+	+	ECVET units (structured description of learning outcomes acquired in relation to a specific qualification), assessment and accumulation processes EQF level of certificate
Diploma supplement		+	EQF level of degree

Source: CEDEFOP 2009/ B

4. Europass Certificate Supplement for the Water Sector Professions

In this section, aims to show that how to use the Europass Certificate Supplement, complements the information included in vocational qualifications in the light of the results obtained H20 project. H20 project's main target group are specialists who are working as VET Trainers in the water sector. As a part of their training, H20 project designed to match EQF levels 5, 6 and 7, and weighed through ECVET. The qualification description made in accordance with ISCO/ESCO system. In other words, in accordance with ISCO/ESCO system, ECVET developed within the EQF Code to water services professionals who are working as a trainer for the water treatment and distribution sectors are responsible for monitoring water quality and play a key role in protecting public health.

As it stated earlier, the certificate supplement as one of the five Europass documents is a standardized document, drawn up by the relevant certifying authorities and presents all the competences and learning outcomes together with the corresponding ECVET credits and the basic document for mutual recognition and transparency, especially for employers or institutions outside the issuing country. Hence there is a relationship between Europass certificate supplement and the ECVET / EQF. The following Table 1 illustrates this relationship.

Table 1. Europass Certificate Supplement and EQF/ ECVET Requirements

Elements of EQF/ ECVET	ECS
Generic title of the qualification	Box 1 title of certificate
Profile of skills and competences	Box 3, might provide essential competences gained at the end of training and provide learning outcomes contained in the unit but not necessary divided into units

Component Institutions	Box 5 Body awarding the certificate national or regional authority providing accreditation/recognition of the certificate
EQF level of qualification	Box 5, level of the certificate
NQF level of qualification	Box 5, level of certificate (national or international)
Assessment procedure and Criteria	Box 5, Grading scale / Pass requirements
Validation procedure and criteria	Box 6, officially recognized ways of acquiring the certificate providing non-formal and informal acquired learning outcomes offer a way of official recognition for qualifications and level which gives official information about the level of the learner's competences.

Source: Arranged from CEDEFOP 2013

4.1 A guide of Europass Certificate Supplement for VET professionals

As stated above the guide is aimed to help water services professionals, to conduct the ECS and includes information on the main steps and stages in sequence of designing an ECS.

The following describes how to complete the certificate in accordance with this information as an example.

EUROPASS CERTIFICATE SUPPLEMENT

The Europass Certificate Supplement is not a substitute for the original qualification; it is complementary to the original certificate or diploma. It contains a detailed description of the skills and competences acquired by the holder of a vocational certificate (European Communities 2003).

4.1.1 Box 1 Title of the Certificate

Box 1 must include the title of the certificate in the original language. In the brackets, specify the language using ISO code (Turkish tr; Nederland nl; Bulgarian bg). Water Professions are identified by the H2O Project in accordance with ISCO/ESCO system and nine professions revealed in this direction. These professions are given the following Table 2

Box 1

Table 2 Professions who are involved in the drinking water supply system

Professions	ISCO (ESCO) Code
1- VET Trainer in Microbiology	2131
2- VET Trainer in Civil Engineering	2142
3- VET Trainer in Environmental Engineering	2143

4- VET Trainer in Chemistry	2113
5- VET Trainer in Mechanical Engineering	2144
6- VET Trainer in Chemical Engineering	2145
7- Town and Traffic Planner	2164
8- Electrical Technician	3113
9- Training and Staff Development Professionals	2424
10- Incinerator and WTP operators	3132
11- Research and development managers	1223
12- School counsellor	2359

4.1.2 Box 2 Translated title of the certificate

Box 2 include translated into another language. This box is to be filled only if the certificate supplement is translated into another language (European Communities 2003).

4.1.3 BOX 3 Profile of skills and competences

The box 3 gives a concise description of the essential competences gained at the end of training. This list should include a list of about 5-15 items using action verbs to describe competencies. It can be expressed more clearly in the following format (European Communities 2003).

- each element of the list may contain several action verbs,
- a common basic syntax must be respected: verb(s) + object + complement;
- descriptions must be concise: adverbs describing generic attitudes (work effectively, perform accurately, etc.) should be avoided since they do not provide essential information;
- descriptions should not express value judgements, but must be descriptive.

In generally, there is a need for water treatment trainer with the practical, real-world, what-they-need-to-know knowledge and proficiencies concerning water treatment, including troubleshooting specific problems, technical assessments, design reviews, bid evaluations, cost reduction audits, market analyses and expert witness services. H2O Project describes the areas and levels of knowledge, skill and competence required of water profession from LO (see Appendix 1). These standards can be applied the assessment mechanisms by using learning outcomes as follows.

Box 3

Professions	Profile of skills and competences
1- VET Trainer in Microbiology	<p><i>A typical holder of the certificate is able to:</i></p> <ul style="list-style-type: none"> •Asses fundamentals of drinking water supply and application of Microbiology • Asses main elements of residual management; •Assess the basic elements of the European legislation in the drinking water supply area; •Work in compliance with Environmental, Health & Safety principals •Implement microbiological testing and culturing; •Perform sterility and environmental testing on scale up, production and daily environmental checks and facility monitoring; •Maintain and order laboratory supplies/media and equipment; •Prepare and maintain required records and logs; •Use statistical techniques in the treatment of data, and interpret and apply the findings; •Assess and forming training groups •Prepare long-term training plans, and conduct training lessons •Conduct Water microbiology training programmes; •Apply EU VET principles (EQF/NQF) and training strategies; •Prepare and describe LOs; and evaluate training effects through applying ECVET
2- VET Trainer in Civil Engineering	<p><i>A typical holder of the certificate is able to:</i></p> <ul style="list-style-type: none"> •Asses main aspects of water contamination risks •Asses fundamentals of water disinfection •Apply DWTP quality standards; •Design water supply and distribution systems; •Perform assessment of excessive water use on the local and regional level; •Calculate the movement of waters in pipes, channels and underground; •Implement various drinking water management techniques; •Operate and maintain specialized equipment; •Prepare and maintain required records and logs; •Use statistical techniques in the treatment of data, and interpret and apply the findings; • Evaluate of economic and financial aspects of drinking water and DWTP; •Apply new approaches and methodologies in VET training for engineers and technical staff working in DWTP; •Adopt and implement EU VET principles for LOs/Certification Units principles and ECVET assessment. •Apply EU VET principles (EQF/NQF) and training strategies and Prepare / describe LOs

<p>3- VET Trainer in Environmental Engineering</p>	<p><i>A typical holder of the certificate is able to:</i></p> <ul style="list-style-type: none"> • Asses main aspects of water contamination risks; • Asses main elements of residual management; • Asses fundamentals of water disinfection; • Assess the basic elements of the European legislation in the drinking water supply area; • Apply DWTP quality standards; • Evaluate of economic and financial aspects of drinking water and DWTP; • Work in compliance with Environmental, Health & Safety principles; • Design water supply and distribution systems; • Calculate the movement of waters in pipes, channels and underground; • Perform water quality parameters analysis and evaluation; • Implement various drinking water management techniques; • Operate and maintain specialized equipment; • Apply river basin management and flood protection; • Take sample, measure and monitor drinking water; • Design reuse of treated drinking water; • Prepare and maintain required records and logs; • Use statistical techniques in the treatment of data, and interpret and apply the findings; • Apply new approaches and methodologies in VET training for engineers and technical staff working in DWTP; • Apply EU VET principles (EQF/NQF) and training strategies and Prepare and describe LOs; • Evaluate training effects through applying ECVET
<p>4- VET Trainer in Chemistry</p>	<p><i>A typical holder of the certificate is able to:</i></p> <ul style="list-style-type: none"> • Asses fundamentals of chemical composition, structure, and properties of substances applied in drinking water • Asses key elements of residual management; • Define principles for selection of drinking water treatment processes; • Determine chemical or physical properties, composition, structure, relationships, or reactions; • Define the impact of water on other elements of the water • Use of chemicals and their interactions, danger signs, production techniques • Analyze organic or inorganic compounds • Develop new approaches and methodologies in VET training for engineers and technical staff working in DWTP; • Perform quality control tests; • Conduct Water Chemistry training programmes; • Adopt and implement EU VET principles for LO/Certification Units principles and ECVET assessment.

<p>5- VET Trainer in Mechanical Engineering</p>	<p><i>A typical holder of the certificate is able to:</i></p> <ul style="list-style-type: none"> •Asses main aspects of water contamination risks; •Determine categories of water contamination agents; •Apply basic DWTP quality standards; •Asses key characteristics of pure water; •Determine fundamentals of water disinfection; •Apply main standards and approaches for application of water disinfection; •Work in compliance with Environmental, Health & Safety principles; •Maintain basic water supply and distribution systems; •Perform technical control of DWTP operation; •Execute technical testing on scale up, production and daily DWTP checks and monitoring; •Maintain laboratory supplies and equipment; •Prepare and maintain required records and logs; •Use statistical techniques in the treatment of data, to interpret and apply the findings; •Develop new approaches and methodologies in VET training for engineers and technical staff working in DWTP; •Adopt and implement EU VET principles for LO/Certification Units principles and ECVET assessment •Apply EU VET principles (EQF/NQF) and training strategies; •Prepare and describe LOs and evaluate training effects through applying ECVET
<p>6- VET Trainer in Chemical Engineering</p>	<p><i>A typical holder of the certificate is able to:</i></p> <ul style="list-style-type: none"> •Asses fundamentals of drinking water supply and application of Microbiology; • Asses main aspects of drinking water supply systems; •Assess the basic elements of the European legislation in the drinking water supply area; • Asses key elements of water contamination risks; •Apply basic DWTP quality standards; • Evaluate main standards and approaches for application of water disinfection; • Perform quality control tests; •Evaluate and monitor technical risks for the generation of drinking water pollution. •Apply chemical engineering techniques in DWTP; •Define the impact of water on the engineering elements of DWTP system and how these other elements affect the quality of the water; •Prepare and maintain required records and logs; •Use statistical techniques in the treatment of data, and interpret and apply the findings; •Develop new approaches and methodologies in VET training for engineers and technical staff

	<p>working in DWTP;</p> <ul style="list-style-type: none"> •Conduct Water Chemistry/Engineering training programmes; •Apply EU VET principles (EQF/NQF) and training strategies; •Prepare and describe LOs and evaluate training effects through applying ECVET
7- Town and Traffic Planner	<p><i>A typical holder of the certificate is able to:</i></p> <ul style="list-style-type: none"> •Assess fundamentals of drinking water treatment; •Assess main aspects of drinking water supply systems; • Assess the basic elements of the European legislation in the drinking water supply area; •Work in compliance with Environmental, Health & Safety principles; •Develop plans for water systems implementation in urban and rural land and traffic systems; •Perform various water management techniques; •Apply drinking water management systems available for the building sites and traffic systems; •Design and develop drinking water usage reduction plan appropriate for the building and traffic requirements; •Maintain a specific technical devices and equipment; •Prepare and maintain required records and logs; •Use statistical techniques in the treatment of data, and interpret and apply the findings. •New approaches and methodologies in VET training for engineers and technical staff working in DWTP; •Adopt and implement EU VET principles for LO/Certification Units principles and ECVET assessment
8- Electrical Technician	<p><i>A typical holder of the certificate is able to:</i></p> <ul style="list-style-type: none"> •Asses fundamentals of drinking water treatment; •Use in water treatment technologies •Asses basic aspects of drinking water supply systems; •Asses main characteristics of DWTP •Assess the basic elements of the European legislation in the drinking water supply area; •Work in compliance with Environmental, Health & Safety principles; •Perform electrical testing and providing technical assistance; •Install, repair and replace, maintain and operate specific equipment in electrical supply of water distribution systems; •Read and interpret blueprints and schematics. •Evaluate electrical and operational problems; •Prepare and maintain checking/control data; •Use statistical techniques in the treatment of data.

<p>9- Training and Staff Development Professionals</p>	<p><i>A typical holder of the certificate is able to:</i></p> <ul style="list-style-type: none"> •Asses to Fundamentals of drinking water treatment; •Develop Water treatment technologies •Asses basic aspects of drinking water supply systems; •Asses main characteristics of DWTP •Assess the basic elements of the European legislation in the drinking water supply area; •Identify training and development needs within an organization; •Design and expand training and development programmes based on the needs of the organisation and the individual; •Managing the delivery of training and development programmes •New approaches and methodologies in VET training for engineers and technical staff working in DWTP; •Adopt and implement the EU VET principles for LO/Certification Units principles and ECVET assessment •Apply EU VET principles (EQF/NQF) and training strategies; •Prepare and describe of LOs and Evaluate training effects through applying ECVET
<p>10- Incinerator and WTP operators</p>	<p><i>A typical holder of the certificate is able to:</i></p> <ul style="list-style-type: none"> • Use chemicals and to understand their interactions, danger signs, production techniques; • Apply the main aspects of DWT technologies and unit operations; • Lead the basic processes involved in clean drinking water delivery; • Know the basics of the water distribution lines; • Manage the key elements of residual management; • Apply the principles for selection of drinking water treatment processes; • Operate and monitor various types of plant, such as incinerators, water treatment plant, air and gas compressors, pumping stations, refrigeration or heating and ventilation systems Perform quality control tests; • Evaluate and monitor technical risks for generation of drinking water pollution. • Apply incineration techniques in DWTP; • Execute techniques for chemical treatment of drinking water • Prepare and maintain required records and logs.
	<p><i>A typical holder of the certificate is able to:</i></p> <ul style="list-style-type: none"> •Manage the use of chemicals and their interactions, danger signs, production techniques; •Understand the main aspects of DWT technologies and unit operations;

<p>11- Research and development managers</p>	<ul style="list-style-type: none"> •Manage the basic processes involved in clean drinking water delivery; •Manage the key elements of residual management; •Apply the principles for selection of drinking water treatment processes; •Implement the key concepts and theories used in water economics; •Manage the core issues related to the economic efficiency of water market; •Assess and manage the economic and financial aspects of drinking water and DWTP; •Plan, direct and coordinate the research and development activities of the enterprise or organisation, under the broad guidance of the directors and chief executives, and in consultation with managers of other departments or sections; •Evaluate and monitor economic risks for generation of drinking water pollution; •Perform various water management techniques •Work in compliance with Environmental, Health & Safety principles; •Apply drinking water management systems available for the building sites and traffic systems; •Keep up-to-date technical and scientific knowledge; •Prepare and maintain required records and logs.
<p>12- School counsellor</p>	<p><i>A typical holder of the certificate is able to:</i></p> <ul style="list-style-type: none"> • Understand the new concepts and theories used in water economics; • Know the core issues related to the economic efficiency of water market; • Understand the evolution of economic and financial aspects of drinking water and DWTP; • Apply new approaches and methodologies in VET training for engineers and technical staff working in DWTP; • To know the EU VET principles for adoption and implementation of LO/Certification Units principles and ECVET credit points for assessment; • Evaluate and monitor economic risks for generation of drinking water pollution. • Perform various water management techniques • Work in compliance with Environmental, Health & Safety principles; • Use statistical techniques in the treatment of data, and interpret and apply findings; • Keep up-to-date technical and scientific knowledge. • Prepare and maintain required records and logs. • Apply EU VET principles (EQF/NQF) and training strategies; • Prepare and describe LOs; • Evaluate training effects through applying ECVET principle.

4.1.4 BOX 4 Range Of Occupations Accessible To the Holder of the Certificate

This box includes list the typical range of intended / possible sectors and /or occupations for which certificate holder is suited (European Communities 2003). Examples of VET trainer are shown below:

Box 4

PROFESSIONS	
1- VET TRAINER IN MICROBIOLOGY	Trainer in <ul style="list-style-type: none"> • bacteriological water analysis • microbiological water analysis • assessor
2- VET TRAINER IN CIVIL ENGINEERING	Trainer in <ul style="list-style-type: none"> • hydraulic engineering • geotechnical engineering • structural engineering • Assessor
3- VET TRAINER IN ENVIRONMENTAL ENGINEERING	Trainer in <ul style="list-style-type: none"> • pollution control engineering • environmental analysing • environmental engineering • environmental remediation specialisation • assessor
4- VET TRAINER IN CHEMISTRY	Trainer <ul style="list-style-type: none"> • biotechnology for water treatment. • technologist • Assessor
5- VET TRAINER IN MECHANICAL ENGINEERING	Trainer in <ul style="list-style-type: none"> • water Infrastructure Engineering • assessor
6- VET TRAINER IN CHEMICAL ENGINEERING	Trainer in <ul style="list-style-type: none"> • engineering for chemical process • assessor
7- TOWN AND TRAFFIC PLANNER	<ul style="list-style-type: none"> • urban planning • water management • assessor
8- ELECTRICAL TECHNICIAN	<ul style="list-style-type: none"> • mechanic, electrical • Assessor
9- TRAINING AND STAFF DEVELOPMENT PROFESSIONALS	<ul style="list-style-type: none"> • water-treatment and related professionals • in skill development
10- INCINERATOR AND WTP OPERATORS	<ul style="list-style-type: none"> • Sewage plant operation • Waste water operation • WTP operation

11- RESEARCH AND
DEVELOPMENT MANAGERS

- Product development management
- Research management

12- SCHOOL COUNSELLOR

- Educational counselling provision

4.1.5 BOX 5 Official basis of the certificate

This box includes:

5.1-The full name and status of the awarding body.

If the certificate is accredited by a national/regional authority, enter full name and status (public/private, regional/national, etc.) of this authority, as well as address and phone/fax number, website and e-mail. If necessary, indicate the period of validity of the certificate as shown below (European Communities 2003).

5.2 Levels of the certificate

Awarding Organisations should insert information on the national and (ideally) European (EQF) qualification frameworks (URL 10). As an example the EQF levels shown below determined by the H20 project.

Professions	EQF Level
1- VET Trainer in Microbiology	7
2- VET Trainer in Civil Engineering	7
3- VET Trainer in Environmental Engineering	7
4- VET Trainer in Chemistry	6
5- VET Trainer in Mechanical Engineering	6
6- VET Trainer in Chemical Engineering	6
7- Town and Traffic Planner	6
8- Electrical technician	5
9- Training and Staff Development Professionals	5
10- Incinerator and WTP operators	5
11- Research and development managers	7
12- School counsellor	6

5.3 Grading Scale / Pass requirements:

- Where a grading scale exists this should be indicated together with the requirements (e.g. Basic details of the grade boundaries) for attaining each level;
- Where no grading scale exists, Awarding Organisations should indicate that qualifications are awarded on a Pass / Fail basis and the minimum requirements for a Pass;
- Where the qualification requires the completion of a certain number of units, or the acquisition of a certain number of credit points, this should be indicated. If possible the specific number of credits required should be specified;
- Information should also be provided, where applicable, on how units are assessed (practical assessment / written or oral examination / coursework / portfolio evidence / peer observation etc. or a combination) (URL 10).

5.4 Access to next level of education or training

Should be indicated that if certificate gives access to the next level of education/training.

5.5 International Agreements

Any international agreement (mutual recognition, equivalence of qualifications, etc.) should be indicated.

5.6 Legal Basis

The legal basis of the certificate, giving complete references where appropriate should be specified. As with the box. Name and status of the body awarding the certificate, translate only information specifying the type of reference (e.g. law, regulation, etc.). The reference itself (title of the reference text, website, etc.) must be left in the original language (European Communities 2003).

4.1.6 BOX 6 Official Basis of the Certificate
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The European Commission's Guidelines for filling in the Europass Certificate Supplement indicate that this section should explain the different ways of acquiring the qualification and specify the forum in which the qualification is provided (training centre or workplace), the percentage of the total programme which takes place in each of these environments, and the duration of study.

6.1 Entry/access requirements (optional)

Specify education level requirements, if any (education level, mode of selection, etc.). For example minimum university education should be written for professionals in the water sector (European Communities 2003).

6.2 Additional information

This section should be used to provide any information that might aid in the recognition of the qualification, or the understanding of the level of the qualification within the national qualification framework referenced elsewhere in the document (URL 10).

6.3 National reference points

Should be Inserted the name and address (including website) of the NRP as written on the original supplement. Links to the National Reference Points for vocational qualifications can be learned at <https://europass.cedefop.europa.eu/en/documents/european-skills-passport/certificate-supplement/national-reference-points>.

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Siaperas, A. & Tissot P. (2007) A Distributed System for Issuing Europass Mobility Documents, CEDEFOP (European Centre for the Development of Vocational Training), Greece

Internet Sources

URL_1 http://ec.europa.eu/education/policy/vocational-policy/ecvet_en.htm

URL_2 http://www.eqavet.eu/qc/tns/monitoring-your-system/evaluation/EQAVET_indicators.aspx

URL_3 <http://www.europass.cedefop.europa.eu/en/about/history>

URL_4 <https://europass.cedefop.europa.eu/en/learning-and-working-in-europe/working>

URL_5 <http://www.e-view-project.eu/news/generic/>

URL_6 <https://www.naric.org.uk/europass/individuals/Documents/Language%20Passport.aspx>

URL_7 https://europassd.cedefop.europa.eu/.../cv-1_en_US_Guidelines

URL_8 https://europassd.cedefop.europa.eu/img/dynamic/c523/cv467_en_US_Europass

URL_9 <http://www.aic.lv/ENIC/ds/wpreport.htm>

URL_10 https://www.naric.org.uk/europass/Documents/UKCS_Guidance.pdf.

Appendix 1: Indicator of knowledge, skills and competence of H2O Project for the Sectoral Reference Groups

<i>Qualifications</i>	<i>Knowledge</i>	<i>Skills</i>	<i>Competence</i>
Chemical engineering (EQF 6)	<ul style="list-style-type: none"> •Fundamentals of drinking water supply and application of Microbiology; •Main aspects of drinking water supply systems; •Introduction to the European legislation in the drinking water supply area; •Specific characteristics in DWT processes in Bulgaria, Netherlands and Turkey; •Key elements of water contamination risks; •Basic concepts in establishment and application of DWTP quality standards; •Characteristics of pure water; •Fundamentals of water disinfection; •Main standards and approaches for application of water disinfection; New approaches and methodologies in VET training for engineers and technical staff working in DWTP; •EU VET principles for adoption and implementation of LO/Certification Units principles and ECVET assessment. 	<ul style="list-style-type: none"> •Perform quality control tests; •Conduct Water Chemistry/Engineering training programmes; •Evaluate and monitor technical risks for generation of drinking water pollution. •Apply chemical engineering techniques in DWTP; •Define the impact of water on the engineering elements of DWTP system and how these other elements affect the quality of the water; •Execute techniques for chemical treatment of drinking water •Prepare and maintain required records and logs; •Use statistical techniques in the treatment of data, and interpret and apply findings; •Apply EU VET principles (EQF/NQF) and training strategies; •Prepare and describe LOs; •Evaluate training effects through applying ECVET; •Keep up-to-date technical and scientific knowledge. 	<ul style="list-style-type: none"> •Expressing and interpreting concepts and ideas in both oral and written form; •Developing and applying logical thinking in solving different problems in everyday practice; •Using contemporary information and communication technologies; •Contributing to social and working life in an effective and beneficial way; •Applying creativity and innovation in planning and managing everyday work and in achieving objectives.
Chemistry (EQF 6)	<ul style="list-style-type: none"> •Fundamentals of chemical composition, structure, and properties of substances applied in drinking water; •Use of chemicals and their interactions, danger signs, production techniques; •Main aspects of DWT technologies and unit operations; •Basic processes involved in clean drinking water delivery; •Introduction to the water distribution lines; •Key elements of residual management; •Principles for selection of drinking water treatment 	<ul style="list-style-type: none"> •Perform quality control tests; •Conduct Water Chemistry training programmes; •Analyze organic or inorganic compounds •Determine chemical or physical properties, composition, structure, relationships, or reactions; •Define the impact of water on other elements of the water treatment system and how these other elements affect the quality of the water; •Prepare and maintain required records and logs; •Use statistical techniques in the 	<ul style="list-style-type: none"> •Expressing and interpreting concepts and ideas in both oral and written forms; •Developing and applying logical thinking in solving different problems in everyday practice; •Using contemporary information and communication technologies; •Contributing to social and working life in an effective and beneficial way; •Applying creativity and innovation in planning and managing everyday work and in achieving objectives.

	<p>processes;</p> <ul style="list-style-type: none"> •New approaches and methodologies in VET training for engineers and technical staff working in DWTP; •EU VET principles for adoption and implementation of LO/Certification Units principles and ECVET assessment. 	<p>treatment of data, and interpret and apply findings;</p> <ul style="list-style-type: none"> •Apply EU VET principles (EQF/NQF) and training strategies; •Preparation and description of LOs; •Evaluate training effects through applying ECVET; •Keep up-to-date technical and scientific knowledge. 	
Civil engineering (EQF 7)	<ul style="list-style-type: none"> •Main aspects of water contamination risks; •Basic concepts in establishment and application of DWTP quality standards; •Key characteristics of pure water; •Fundamentals of water disinfection; •Main standards and approaches for application of water disinfection; •Key concepts and theories used in water economics; •Core issues related to the economic efficiency of water market; •Evolution of economic and financial aspects of drinking water and DWTP; •New approaches and methodologies in VET training for engineers and technical staff working in DWTP; •EU VET principles for adoption and implementation of LO/Certification Units principles and ECVET assessment. 	<ul style="list-style-type: none"> •Work in compliance with Environmental, Health & Safety principles; •Design water supply and distribution systems; •Perform assessment of excessive water use on the local and regional level; •Calculate the movement of waters in pipes, channels and underground; •Implement various drinking water management techniques; •Operate and maintain specialized equipment; •Prepare and maintain required records and logs; •Use statistical techniques in the treatment of data, and interpret and apply the findings; •Apply EU VET principles (EQF/NQF) and training strategies; •Prepare and describe LOs; •Evaluate training effects through applying ECVET; •Keep up-to-date technical and scientific knowledge. 	<ul style="list-style-type: none"> •Expressing and interpreting concepts and ideas in both oral and written form; •Developing and applying logical thinking in solving different problems in everyday practice; •Using contemporary information and communication technologies; •Contributing to social and working life in an effective and beneficial way; •Applying creativity and innovation in planning and managing everyday work and in achieving objectives.
Electrical technician (EQF 5)	<ul style="list-style-type: none"> •Fundamentals of drinking water treatment; •Water treatment technologies development; •Basic aspects of drinking water supply systems; •Main characteristics of DWTP •Introduction to the European legislation in the drinking water supply area; •Specific characteristics in DWT processes in Bulgaria, Netherlands and Turkey. 	<ul style="list-style-type: none"> •Work in compliance with Environmental, Health & Safety principles; •Perform electrical testing and providing technical assistance; •Install, repair and replace, maintain and operate specific equipment in electrical supply of water distribution systems; •Read and interpret blueprints and schematics. •Evaluate electrical and operational problems; •Prepare and maintain checking/control data; 	<ul style="list-style-type: none"> •Expressing and interpreting concepts and ideas in both oral and written form; •Developing and applying logical thinking in solving different problems in everyday practice; •Using contemporary information and communication technologies; •Contributing to social and working life in an effective and beneficial way; •Applying creativity and innovation in planning and managing everyday work and in

		<ul style="list-style-type: none"> •Use statistical techniques in the treatment of data. 	achieving objectives
Environmental engineering F 7)	<ul style="list-style-type: none"> • Fundamentals of drinking water supply and application of Environmental Engineering; •Main aspects of drinking water supply systems; • Basic concepts in DWTP operation; •Main aspects of water contamination risks; •Main elements of residual management; • Introduction to the European legislation in the drinking water supply area; •Specific characteristics in DWT processes in Bulgaria, Netherlands and Turkey; • Basic concepts in establishment and application of DWTP quality standards; •Key characteristics of pure water; • Fundamentals of water disinfection; •Leading standards and approaches for application of water disinfection; • Main aspects of DWT technologies and unit operations; •Basic processes involved in clean drinking water delivery; • Introduction to the water distribution lines; •Key elements of residual management; • Evolution of economic and financial aspects of drinking water and DWTP; •Key concepts and theories used in water economics 	<ul style="list-style-type: none"> •Work in compliance with Environmental, Health & Safety principles; •Design water supply and distribution systems; •Calculate the movement of waters in pipes, channels and underground; •Perform water quality parameters analysis and evaluation; •Implement various drinking water management techniques; •Operate and maintain specialized equipment; •Apply river basin management and flood protection; •Sample, measure and monitor drinking water; •Design reuse of treated drinking water; •Apply integrated drinking water resources projects; •Prepare and maintain required records and logs; •Use statistical techniques in the treatment of data, and interpret and apply the findings; •Apply EU VET principles (EQF/NQF) and training strategies; •Prepare and describe LOs; •Evaluate training effects through applying ECVET; •Keep up-to-date technical and scientific knowledge. 	<ul style="list-style-type: none"> •Expressing and interpreting concepts and ideas in both oral and written forms; •Developing and applying logical thinking in solving different problems in everyday practice; •Using contemporary information and communication technologies; •Contributing to social and working life in an effective and beneficial way; •Applying creativity and innovation in planning and managing everyday work and in achieving objectives.
Mechanical engineering (EQF 6)	<ul style="list-style-type: none"> •Main aspects of water contamination risks; •Major categories of water contamination agents; •Basic concepts in establishment and application of DWTP quality standards; •Key characteristics of pure water; •Fundamentals of water disinfection; 	<ul style="list-style-type: none"> •Work in compliance with Environmental, Health & Safety principles; •Maintain basic water supply and distribution systems; •Perform technical control on DWTP operation; •Execute technical testing on scale up, production and daily DWTP checks and monitoring; •Maintain laboratory supplies 	<ul style="list-style-type: none"> •Expressing and interpreting concepts and ideas in both oral and written forms; •Developing and applying logical thinking in solving different problems in everyday practice; •Using contemporary information and communication technologies; •Contributing to social and working life in an effective and

	<ul style="list-style-type: none"> •Main standards and approaches for application of water disinfection; •New approaches and methodologies in VET training for engineers and technical staff working in DWTP; •EU VET principles for adoption and implementation of LO/Certification Units principles and ECVET assessment. 	<ul style="list-style-type: none"> and equipment; •Prepare and maintain required records and logs; •Use statistical techniques in the treatment of data, to interpret and apply the findings; •Apply EU VET principles (EQF/NQF) and training strategies; •Prepare and describe LOs; •Evaluate training effects through applying ECVET; •Keep up-to-date technical and scientific knowledge. 	<ul style="list-style-type: none"> beneficial way; •Applying creativity and innovation in planning and managing everyday work and in achieving objectives.
Microbiology (EQF 7)	<ul style="list-style-type: none"> •Fundamentals of drinking water supply and application of Microbiology; •Main aspects of drinking water supply systems; •Basic concepts in DWTP operation; •Main elements of residual management; •Introduction to the European legislation in the drinking water supply area; •Specific characteristics in DWT processes in Bulgaria, Netherlands and Turkey; •New approaches and methodologies in VET training for engineers and technical staff working in DWTP; •EU VET principles for adoption and implementation of LO/Certification Units principles and ECVET assessment; 	<ul style="list-style-type: none"> •Work in compliance with Environmental, Health & Safety principals;; •Conduct Water microbiology training programmes; •Perform microbiological testing and culturing; •Perform sterility and environmental testing on scale up, production and daily environmental checks and facility monitoring; •Maintain and order laboratory supplies/media and equipment; •Prepare and maintain required records and logs; •Use statistical techniques in the treatment of data, and interpret and apply the findings; •Apply EU VET principles (EQF/NQF) and training strategies; •Prepare and describe LOs; •Evaluate training effects through applying ECVET; •Keep up-to-date technical and scientific knowledge 	<ul style="list-style-type: none"> •Expressing and interpreting concepts and ideas in both oral and written forms; •Developing and applying logical thinking in solving different problems in everyday practice; •Using contemporary information and communication technologies; •Contributing to social and working life in an effective and beneficial way; •Applying creativity and innovation in planning and managing everyday work and in achieving objectives.
Town and traffic planners (EQF 6)	<ul style="list-style-type: none"> •Fundamentals of drinking water treatment; •Main aspects of drinking water supply systems; •Introduction to the European legislation in the drinking water supply area; •Specific characteristics in DWT processes in Bulgaria, Netherlands and Turkey; •New approaches and methodologies in VET training for 	<ul style="list-style-type: none"> •Work in compliance with Environmental, Health & Safety principles; •Develop plans for water systems implementation in urban and rural land and traffic systems; •Perform various water management techniques; •Apply drinking water management systems available for the building sites and traffic 	<ul style="list-style-type: none"> •Expressing and interpreting concepts and ideas in both oral and written forms; •Developing and applying logical thinking in solving different problems in everyday practice; •Using contemporary information and communication technologies; •Contributing to social and working life in an effective and beneficial way;

	<p>engineers and technical staff working in DWTP;</p> <ul style="list-style-type: none"> •EU VET principles for adoption and implementation of LO/Certification Units principles and ECVET assessment; 	<p>systems;</p> <ul style="list-style-type: none"> •Design and develop drinking water usage reduction plan appropriate for the building and traffic requirements; •Maintain specific technical devices and equipment; •Prepare and maintain required records and logs; •Use statistical techniques in the treatment of data, and interpret and apply the findings. 	<ul style="list-style-type: none"> •Applying creativity and innovation in planning and managing everyday work and in achieving objectives.
Training and staff development professionals (EQF 5)	<ul style="list-style-type: none"> •Fundamentals of drinking water treatment; •Water treatment technologies development; •Basic aspects of drinking water supply systems; •Main characteristics of DWTP •Introduction to the European legislation in the drinking water supply area; •Specific characteristics in DWT processes in Bulgaria, Netherlands and Turkey; •New approaches and methodologies in VET training for engineers and technical staff working in DWTP; •EU VET principles for adoption and implementation of LO/Certification Units principles and ECVET assessment. 	<ul style="list-style-type: none"> •Identify training and development needs within an organization; •Design and expand training and development programmes based on the needs of the organisation and the individual; •Managing the delivery of training and development programmes •Apply EU VET principles (EQF/NQF) and training strategies; •Preparation and description of LOs; •Evaluate training effects through applying ECVET; •Keep up-to-date technical and scientific knowledge. 	<ul style="list-style-type: none"> • Expressing and interpreting concepts and ideas in both oral and written forms; •Developing and applying logical thinking in solving different problems in everyday practice; •Using contemporary information and communication technologies; •Contributing to social and working life in an effective and beneficial way; •Applying creativity and innovation in planning and managing everyday work and in achieving objectives.
Incinerator and WTP operators (EQF 5)	<ul style="list-style-type: none"> •Use of chemicals and their interactions, danger signs, production techniques; •Main aspects of DWT technologies and unit operations; •Basic processes involved in clean drinking water delivery; •Introduction to the water distribution lines; •Key elements of residual management; •Principles for selection of drinking water treatment processes. 	<ul style="list-style-type: none"> •Operate and monitor various types of plant, such as incinerators, water treatment plant, air and gas compressors, pumping stations, refrigeration or heating and ventilation systems Perform quality control tests; •Evaluate and monitor technical risks for generation of drinking water pollution. •Apply incineration techniques in DWTP; •Execute techniques for chemical treatment of drinking water; •Prepare and maintain required records and logs; 	<ul style="list-style-type: none"> •Expressing and interpreting concepts and ideas in both oral and written form; •Developing and applying logical thinking in solving different problems in everyday practice; •Using contemporary information and communication technologies; •Contributing to social and working life in an effective and beneficial way; •Applying creativity and innovation in planning and managing everyday work and in achieving objectives.

<i>R&D managers (EQF 7)</i>	<ul style="list-style-type: none"> •Use of chemicals and their interactions, danger signs, production techniques; •Main aspects of DWT technologies and unit operations; •Basic processes involved in clean drinking water delivery; •Introduction to the water distribution lines; •Key elements of residual management; •Principles for selection of drinking water treatment processes; •Key concepts and theories used in water economics; •Core issues related to the economic efficiency of water market; •Evolution of economic and financial aspects of drinking water and DWTP. 	<ul style="list-style-type: none"> •Plan, direct and coordinate the research and development activities of the enterprise or organisation, under the broad guidance of the directors and chief executives, and in consultation with managers of other departments or sections; •Evaluate and monitor economic risks for generation of drinking water pollution. •Perform various water management techniques •Work in compliance with Environmental, Health & Safety principles; •Apply drinking water management systems available for the building sites and traffic systems; •Keep up-to-date technical and scientific knowledge; •Prepare and maintain required records and logs. 	<ul style="list-style-type: none"> •Expressing and interpreting concepts and ideas in both oral and written form; •Developing and applying logical thinking in solving different problems in everyday practice; •Using contemporary information and communication technologies; •Contributing to social and working life in an effective and beneficial way; •Applying creativity and innovation in planning and managing everyday work and in achieving objectives
<i>School counsellor (EQF 6)</i>	<ul style="list-style-type: none"> •Key concepts and theories used in water economics; •Core issues related to the economic efficiency of water market; •Evolution of economic and financial aspects of drinking water and DWTP; •New approaches and methodologies in VET training for engineers and technical staff working in DWTP; •EU VET principles for adoption and implementation of LO/Certification Units principles and ECVET credit points for assessment. 	<ul style="list-style-type: none"> •Evaluate and monitor economic risks for generation of drinking water pollution. •Perform various water management techniques •Work in compliance with Environmental, Health & Safety principles; •Use statistical techniques in the treatment of data, and interpret and apply findings; •Keep up-to-date technical and scientific knowledge; •Prepare and maintain required records and logs. •Apply EU VET principles (EQF/NQF) and training strategies; •Prepare and describe LOs; •Evaluate training effects through applying ECVET principle. 	<ul style="list-style-type: none"> •Expressing and interpreting concepts and ideas in both oral and written form; •Developing and applying logical thinking in solving different problems in everyday practice; •Using contemporary information and communication technologies; •Contributing to social and working life in an effective and beneficial way; •Applying creativity and innovation in planning and managing everyday work and in achieving objectives.



EUROPASS CERTIFICATE SUPPLEMENT (*)

BOX 1. TITLE OF THE CERTIFICATE (ET)

(1) In the original language

BOX 2. TRANSLATED TITLE OF THE CERTIFICATE (EN)

(1) If applicable. This translation has no legal status.

BOX 3. PROFILE OF SKILLS AND COMPETENCES

BOX 4. RANGE OF OCCUPATIONS ACCESSIBLE TO THE HOLDER OF THE CERTIFICATE

(1) If applicable

More information available at: <http://europass.cedefop.eu.int>

BOX 5. OFFICIAL BASIS OF THE CERTIFICATE

5.1 Name and status of the body awarding the certificate

Name and status of the national/regional authority providing accreditation/recognition of the certificate

5.2 Level of the certificate (national or international)

5.3 Grading scale / Pass requirements

5.4 Access to next level of education/training	5.5 International agreements
5.6 Legal basis	

BOX 6. OFFICIALLY RECOGNISED WAYS OF ACQUIRING THE CERTIFICATE	
Prerequisites for application for a certificate (level of education or training, work experience, in-service training, etc.) Indicate duration in time if necessary.	
Prerequisites	Duration (hours, weeks, months, years)
Training	
Age	
Entry requirements <u>(6.1)</u>	
Additional information (6.2)	
National reference point (6.3)	