



REGULAI TE

Understanding the Ethics and
Regulation of Artificial Intelligence.
A competencies' strategy for managers,
professionals and trainers.

Project No: 2021-1-IT01-KA220-VET-000028047

COMPETENCES Framework



Co-funded by
the European Union



Project information

Project acronym: REGULAITE

Project title: *undeRstanding the Ethics and reGulation of Artificial Intelligence. A compeTEncies' strategy for managers, professionals, and trainers*

Agreement number: 2021-1-IT01-KA220-VET-000028047

EU programme: Erasmus+ KA220-VET - Cooperation partnerships in vocational education and training

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EXECUTIVE SUMMARY

The *REGULAITE Competence Framework* – has been elaborated through the *REGULAITE* project, number 2021-1-IT01-KA220-VET-000028047, co-funded by the Erasmus+ KA2 programme of the European Union. This competence framework provides information on the principles and technical specifications of:

- a) the European Qualifications Framework (EQF);
- b) the European Credit System for Vocational Education and Training (ECVET);
- c) the European Quality Assurance in Vocational Education and Training (EQAVET).

The main purpose of this framework is to provide useful information, practical examples, and guidelines that support the *REGULAITE* Curricula Design as well as its quality assurance process.

The European Qualifications Framework (EQF) is a common European reference framework which aims to contribute towards the mutual understanding and transparency of qualifications across different European countries and systems. The practical implementation of EQF is based on the Recommendation on the European Qualifications Framework for Lifelong Learning adopted by the European Parliament and the Council on April 23, 2008. The European Qualifications Framework proposes eight reference levels which cover the full scale of qualifications, from basic (EQF level 1) to advanced levels (EQF level 8). Each level is defined by a set of descriptors that indicate the relevant learning outcomes for qualifications in any given qualifications' system. The description of EQF level increases in terms of complexity as the EQF level increases. Currently, all the countries that integrate the partnership of the *REGULAITE* Project already have a National Qualifications Framework aligned with the European Qualifications Framework, despite the fact that countries have different stages of development and there are small variations in level descriptors. Following the EQF recommendations for the purposes of the *REGULAITE* curricula design, learning outcomes will be described in terms of knowledge, skills, and competence. From the system point of view, *REGULAITE* curricula is aimed at Continuous Vocational Education and Training (C-VET) and taking into account the defined target-group, it has been defined as EQF level 5. Therefore, the learning outcomes in terms of knowledge, skills and competences are described by reference to the descriptors of EQF level 5.

The European Credit System for Vocational Education and Training (ECVET) is a common European technical framework for the transfer, recognition and (where appropriate) accumulation of individuals' learning outcomes with a view to achieve a qualification. In conjunction with the European Qualifications Framework (EQF), the European Credit System for Vocational Education and Training (ECVET) aims to achieve greater compatibility between the different Vocational Education and Training systems (VET) across Europe and their qualifications. The Recommendation of the European Parliament and of the Council, June 18, 2009, on the establishment of a European Credit System for Vocational Education and Training (ECVET) is a key European tool containing guidelines to increase the creation and implementation of a European credit system for Vocational Education and Training (VET). This Recommendation establishes common ECVET principles and technical specifications for ECVET and recommends wider ECVET promotion and implementation by all Member States.

ECVET implementation requires that qualifications be described in terms of learning outcomes, which should be grouped into units of learning outcomes. A qualification should be composed of a set of units of learning outcomes, and the units can be accumulated and transferred to obtain a certain qualification. To do so, a credit point system has to be put into practice. A certain number of credit points must be assigned to the whole qualification and to each unit of learning outcome in particular. ECVET points are numerical representations of the overall weight of learning outcomes and of the relative weight of units in relation to the qualification.

A step-by-step methodology has been described in this guide in order to facilitate the conception of the *REGULAITE* curricula and ensure that it is conceived in such a way that all conditions for ECVET implementation are focused.



The first step of the methodology is to identify the expected learning outcomes of the training. The whole training referential of the qualification has to be described in terms of learning outcomes. Within the context of the *REGULAITE* Project, learning outcomes are understood as a set of knowledge, skills and competences needed to put into practice key tasks or key technical outcomes. The description of the knowledge, skills and competence are interconnected for each key technical outcome. Within the context of the Project *REGULAITE*, knowledge is described in terms of what the learner knows and understands. In the description of what the learner knows, the body of facts, principles, theories, and practices which are related to a field of work or study are implied. Skills are described as cognitive (involving the use of logical, intuitive, and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools, and instruments). Within the context of the *REGULAITE* Project, skills are described in terms of what the learner is able to do. The description of the skills must obey, in terms of language, the structure of the statement initiated by the verb that indicates the type of skill, conjugated in the infinity, followed by the description of the action. Competences are described in terms of what the learner does, applying knowledge, skills, and demonstration of professional attitudes, personal, social, and methodological abilities. The description of the competence must obey, in terms of language, to the structure of the statement initiated by the action verb that indicates the type of competence, conjugated in the present simple and continuous forms, followed by the description of the observable action.

The second step of the methodology is to group learning outcomes into units and define the units of learning outcomes that compose the qualification of *REGULAITE*. A unit of learning outcome is a component of a qualification, consisting of a coherent set of knowledge, skills and competence that can be assessed and validated with a number of associated ECVET points. The main rule for grouping learning outcomes into units is the coherence, interconnectivity, reciprocity and interdependence of knowledge, skills and competence associated with each key technical outcome. A set of criteria are taken into account to group learning outcomes such as: the relation of learning outcomes to the same set of key technical tasks; the relation of learning outcomes to the same product/outcome; the relation of learning outcomes to the same production technique. For the purposes of the *REGULAITE* Project, a unit of learning outcome should be composed by the following components: title of the qualification to which the unit relates; EQF level; title of the unit; number of hours; key technical outcome; knowledge; skills; competences; performance criteria; outputs; ECVET credit points.

The third step of the methodology is to attribute ECVET Points to qualifications and units, representing the qualification and each unit by a specific number of ECVET Points. A certain number of ECVET credit points are allocated to units of learning outcomes, which makes it possible to transfer and accumulate units of learning outcomes. Within the context of the *REGULAITE* Project, the role for the attribution of ECVET Points to Units of Learning Outcome follows the convention to which 60 points are allocated to the learning outcomes expected to be achieved in a year of formal full time vocational education and training, in accordance with the Recommendation of the European Parliament and of the Council of 18 June 2009. Following the convention, a VET formal learning context is taken as a reference in each country and on the basis of 60 ECVET points per year of formal full time VET, the total number of ECVET points are assigned to the qualification.

The European Quality Assurance in Vocational Education and Training (EQAVET) is a practice that brings Member States, Social Partners, and the European Commission together to promote European collaboration by developing and improving quality assurance in Vocational Educational and Training. The Recommendation of the European Parliament and of the Council of June 18, 2009, on the establishment of a European Quality Assurance in Vocational Education and Training established a European quality assurance reference framework, comprising quality assurance and improvement cycle, composed by four phases – planning, implementation, evaluation/assessment, review/revision – which is supported by a selection of quality criteria, descriptors and indicators applicable to quality management of both VET-system and VET-provider levels. Indicators could be used as a toolbox from which VET providers can select the most relevant indicators for their quality assurance system.



The EQAVET working group has also identified a set of building blocks which could support the implementation of work-based learning, providing guidance and set up activities that could help VET providers to develop and implement a quality assurance approach for work-based learning procedures that are in line with the EQAVET framework.

For *REGULAITE* purposes the indicators 4 “Completion rate in VET programmes” and 6 “Utilization of acquired skills at the workplace” are going to be incorporated in the development of the quality assurance process. Some possible questions for the further exploration of these indicators are also proposed by this guide. Furthermore, where relevant and applicable, during the implementation of work-based learning component of *REGULAITE* VET programme key questions for building blocks setting should be effectively addressed.

Dissemination Level		
PU	Public	X
PP	Restricted to other programme participants (including Commission services and project reviewers)	
CO	Confidential, only for members of the consortium (including EACEA and Commission services and project reviewers)	



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LIST OF ABBREVIATIONS

C-VET: Continuing Vocational Education and Training

ECVET: European Credit System for Vocational Education and Training

EQAVET: European Quality Assurance in Vocational Education and Training

EQF: European Qualifications Framework

EU: European Union

I-VET: Initial Vocational Education and Training

LA: Learning Agreement

LO: Learning Outcomes

MoU: Memorandum of Understanding

NQF: National Qualifications Framework

NQS: National Qualifications System

OECD: ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

VET: Vocational Education and Training

WBL: Work Based Learning



PREFACE

The **REGULAITE Competence Framework: Methodological Guide on EQF/ECVET/EQAVET** has been elaborated through the **Project REGULAITE**, contract number 2021-1-IT01-KA220-VET-000028047, co-funded by the Erasmus+ KA2 programme of the European Union.

The purpose of the **REGULAITE Competence Framework: Methodological Guide on EQF/ECVET/EQAVET** is to provide guidance on EQF (European Qualifications Framework), ECVET (European Credit System for Vocational Education and Training) and EQAVET (European Quality Assurance in Vocational Education and Training) to support the **REGULAITE** Curricula Design.

This Guide has been elaborated by Partner 4 (EPRALIMA_Escola Profissional do Alto Lima, CIPRL). It is a public resource and is available in digital format. It corresponds to activity number A2 of Result 1 – "**REGULAITE Competence Framework**".

The **REGULAITE Competence Framework: Methodological Guide on EQF/ECVET/EQAVET** is aimed at:

- Non-technical SME managers;
- Professionals in policymaking, law, and insurance;
- C-VET Trainers;
- General public.



CHAPTER 1: EUROPEAN QUALIFICATIONS FRAMEWORK (EQF)

1.1 What is the European Qualifications Framework (EQF)?

The *European Qualifications Framework*, herein after referred to as EQF, is a common European reference framework which aims to contribute towards the mutual understanding and transparency of qualifications across different European countries and systems (Office for Official Publications of the European Communities, 2008).

The guidelines provided by EQF make it possible to have a comprehensive overview of qualifications among the 38 European countries that are currently involved in its implementation.

EQF constitutes itself as a bridge between the national qualifications systems and takes into account the diversity of national systems and facilitates the translation and comparison of qualifications between countries.

This common framework contributes towards the development of Europe knowledgeable at all levels of education and training, as well as the internationalization and educational and training excellence in Europe, supporting cross-border mobility of learners and workers and lifelong learning across Europe.

EQF is a necessary basis for the achievement of educational objectives related to the smart, sustainable, and inclusive growth of the Europe 2020 Strategy.

The *European Qualifications Framework* covers qualifications at all levels and in all sub-systems of education and training.

1.2 The main principles of EQF

The implementation of the European Qualifications Framework implies the following principles (Office for Official Publications of the European Communities, 2008):

- development of National Qualifications Frameworks in accordance with the European Qualifications Framework and national legislation and practice;
- follow the European framework of qualification levels to describe qualifications;
- use an approach based on learning outcomes when defining and describing qualifications, and promote the validation of non-formal and informal learning in accordance with the common European principles;
- use a common set of descriptors to indicate the relevant learning outcomes of qualifications at each level in any system of qualifications;
- apply common principles of quality assurance in education and training.

Therefore, the following definitions are given for common understanding by the *Recommendation of the European Parliament and of the Council*, April 23, 2008:

- National Qualifications Framework – “an instrument for the classification of qualifications according to a set of criteria for specified levels of learning achieved, which aims to integrate and coordinate national qualification subsystems and improve the transparency, access, progression and quality of qualifications in relation to the labour market and civil society”;
- National Qualifications System – “all aspects of a Member State’s activity related to the recognition of learning and other mechanisms that link education and training to the labour market and civil society. This includes the development and implementation of institutional arrangements and processes relating to quality



assurance, assessment, and the award of qualifications. A national qualifications system may be composed of several subsystems and may include a national qualifications framework”;

- Qualification – *“a formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards”;*
- Learning Outcomes – *“statements of what a learner knows, understands and is able to do upon completion of a learning process, which are defined in terms of knowledge, skills and competence”.*

1.3 Reference Levels in the European Qualifications Framework

The Council of the European Union (2017) proposes eight reference levels in the European Qualifications Framework, which extend over the full scale of qualifications, from basic (Level 1 - example school leaving certificates) to advanced levels (Level 8 - example Doctorates).

As a tool for Lifelong Learning, EQF encompasses all levels of qualifications acquired in general, vocational education and training and academic education. The framework addresses both qualifications acquired in initial and in continuing education and training.

Each level is defined by a set of descriptors that indicate the relevant learning outcomes for qualifications in any given qualifications’ system. Each level is defined in terms of knowledge, skills, and competence.

The description of the EQF level increases in terms of complexity as the EQF level increases.

In the context of EQF: knowledge is described as theoretical and/or factual; skills are described as cognitive and practical; competence is described in terms of responsibility and autonomy.

Table 1 describes the relevant learning outcomes for each EQF level, in terms of knowledge, skills and competence, in accordance to Annex II of the *Recommendation on the European Qualifications Framework for Lifelong Learning*, adopted by the European Parliament and the Council (2008).



Table 1: Descriptors defining levels in the European Qualifications Framework.

EQF Level	Knowledge	Skills	Competence
	In the context of EQF, knowledge is described as theoretical and/or factual.	In the context of EQF, skills are described as cognitive (involving the use of logical, intuitive, and creative thinking) and practical (involving manual dexterity and the use of methods, materials, tools and instruments).	In the context of the EQF, competence is described in terms of responsibility and autonomy. Responsibility and Autonomy are described as the ability of the learner to apply knowledge and skills autonomously and with responsibility.
Level 1 Relevant LO	Basic general knowledge.	Basic skills required to carry out simple tasks.	Work or study under direct supervision in a structured context
Level 2 Relevant LO	Basic factual knowledge of a field of work or study.	Basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools.	Work or study under supervision with some autonomy.
Level 3 Relevant LO	Knowledge of facts, principles, processes, and general concepts, in a field of work or study.	A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials, and information.	Take responsibility for completion of tasks in work or study; adapt own behaviour to circumstances in solving problems.
Level 4 Relevant LO	Factual and theoretical knowledge in broad contexts within a field of work or study.	A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study.	Exercise self-management within the guidelines of work or study contexts that are usually predictable but are subject to change; supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities.
Level 5 Relevant LO	Comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge.	A comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems.	Exercise management and supervision in contexts of work or study activities where there is unpredictable change; review and develop performance of self and others.
Level 6 Relevant LO	Advanced knowledge of a field of work or study, involving a critical understanding of theories and principles.	Advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study.	Manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts; take responsibility for managing professional development of individuals and groups.
Level 7 Relevant LO	Highly specialized knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research. Critical awareness of knowledge issues in a field and at the interface between different fields.	Specialised problem-solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields.	Manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches; take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams.
Level 8 Relevant LO	Knowledge at the most advanced frontier of a field of work or study and at the interface between fields.	The most advanced and specialised skills and techniques, including synthesis and evaluation, required to solve critical problems in research and/or innovation and to extend and redefine existing knowledge or professional practice.	Demonstrate substantial authority, innovation, autonomy, scholarly and professional integrity, and sustained commitment to the development of new ideas or processes at the forefront of work or study contexts including research.

Source: adapted from the European Parliament and of the Council (2008). Recommendation of the European Parliament and of the Council of April 23, 2008, on the establishment of the European Qualifications Framework for Lifelong Learning (pp. C111/5-C111/6). Official Journal of the European Union. 2008/C 111/01.



1.4 Development State of the National Qualifications Framework (NQF) in Partner Countries

Currently, all the countries that integrate the partnership of the *REGULAITE* Project already have a National Qualifications Framework aligned with the European Qualifications Framework, despite the fact that countries have different stages of development and there are small variations in level descriptors.

Portugal is one of the most developed countries, with an operational National Qualifications Framework aligned with the European Qualifications Framework since 2011.

Table 2 compares the state of development of the National Qualifications Framework in the countries that integrate the partnership of the *REGULAITE* Project.

Table 2: *Development of National Qualifications Frameworks in the countries of the Consortium.*

Country	Scope of Framework	Number of levels	Level descriptors	Stage of development	NQF linked to EQF
Germany	Comprehensive NQF for lifelong learning; includes qualifications from general education, VET (initial VET and regulated further training), and from higher education	Eight	professional competence (knowledge and skills) • personal competence (social competence and autonomy)	Operational	2012
Ireland	Comprehensive NFQ including all types and levels of qualification from formal education and training.	10 with five classes of award type: major, minor, special purpose, professional and supplemental	• knowledge • skills • competence	Operational	2009 2020 update
Italy	Designed as a comprehensive framework; it will include all levels and types of qualification from formal education and training and regional qualifications.	Eight	• knowledge • skills • autonomy and responsibility	Activation Stage	2013 major national qualifications from formal education and training linked directly to EQF
Portugal	Comprehensive NQF including all levels and types of qualification from formal education and training and from the national system for the recognition, validation, and certification of competences.	Eight	• knowledge • skills • attitudes	Operational	2011

Source: CEDEFOP (2021). *Overview of National Qualifications Framework Developments in Europe 2020*. Luxembourg: Publications Office. Retrieved from <http://data.europa.eu/doi/10.2801/31688>



1.5 The REGULAITE Curricula Design and the European Qualifications Framework (EQF)

The REGULAITE Project is aimed at Continuous Vocational Education and Training (C-VET), specifically at increasing the skills of non-technical SME managers, Professionals in policymaking, law and insurance and C-VET trainers on the ethical and regulatory aspects of Artificial Intelligence.

Therefore, depending on the specific country conditions, the training provided by REGULAITE will be at the higher secondary vocational training level (EQF level 5), meaning, that for the purposes of the REGULAITE Pilot Project, **particular attention will be given to EQF descriptor level 5 which is presented in table 3.**

Table 3: EQF descriptor for level 5 in the European Qualifications Framework.

EQF Level	Knowledge	Skills	Competence
	In the context of EQF, knowledge is described as theoretical and/or factual.	In the context of EQF, skills are described as cognitive (involving the use of logical, intuitive, and creative thinking) and practical (involving manual dexterity and the use of methods, materials, tools and instruments).	In the context of the EQF, competence is described in terms of responsibility and autonomy. Responsibility and Autonomy are described as the ability of the learner to apply knowledge and skills autonomously and with responsibility.
Level 5 Relevant LO	Comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge.	A comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems	Exercise management and supervision in contexts of work or study activities where there is unpredictable change; review and develop performance of self and others

Source: adapted from the *European Parliament and of the Council (2008). Recommendation of the European Parliament and of the Council of April 23, 2008, on the establishment of the European Qualifications Framework for Lifelong Learning* (pp. C111/5-C111/6). Official Journal of the European Union. 2008/C 111/01.

Despite the variations found between countries in the level descriptors, in the context of REGULAITE curricula design, learning outcomes will be described in terms of “knowledge”, “skills” and “competence”. More detailed information on how to describe learning outcomes can be found in Chapter 2.



CHAPTER 2: EUROPEAN CREDIT SYSTEM FOR VOCATIONAL EDUCATION AND TRAINING (ECVET)

2.1 What is ECVET?

The European Credit System for Vocational Education and Training, hereinafter referred to as ECVET, is a common European technical framework for the transfer, recognition and (where appropriate) accumulation of individuals' learning outcomes in light of achieving a qualification.¹

In conjunction with the European Qualifications Framework (EQF), the European Credit System for Vocational Education and Training (ECVET) aims to achieve greater compatibility between the different Vocational Education and Training systems (VET) across Europe, including their qualifications (European Parliament and Council, 2009).

ECVET is applicable to all learning outcomes achieved by an individual on different learning paths, which are then transferred, recognized, and accumulated in order to obtain a qualification.

It has been set up to work with other European tools and aims to make it easier for European citizens to recognize their knowledge, skills, and competencies in another European country.

It is foreseen to be a European tool supporting mutual trust in the field of qualifications and increasing transparency in relation to individual learning experiences, making mobility more attractive between different countries and different learning environments (European Commission, 2005; European Parliament and Council, 2008; European Parliament and Council, 2008).

It also contributes towards lifelong learning, recognizing learning outcomes achieved in formal, non-formal and/or informal settings in order to ensure that such achievements can contribute to the acquisition of a qualification.

2.2 What is ECVET's legal basis?

Several European Communiqués on Vocational Education and Training (VET) refer to the purpose of a credit system for Vocational Education and Training (VET).

In 2002 at the *Copenhagen Declaration*, reference was made to a credit transfer system for Vocational Education and Training (VET). The recognition of skills and qualifications was considered a priority by the Directors General for Vocational Training (DGVET) and the European Commission for Vocational Education and Training (VET), as one of the common necessary measures to promote "transparency, comparability, transferability and recognition of skills and/or qualifications between different countries and at different levels".

The *Maastricht Communiqué*, in 2004 – first revision of the *Copenhagen Declaration* – confirmed a continuing commitment to a credit transfer system for Vocational Education and Training (VET).

The *Helsinki Communiqué*, in 2006 – second follow-up of the Copenhagen Process – focused on further development of common European tools for Vocational Education and Training (EQF, ECVET, Europass), enhancement of scope, comparability and reliability of vocational education and training.

¹ <https://www.cedefop.europa.eu/en/projects/european-credit-system-vocational-education-and-training-ecvet>



The *Bordeaux Communiqué*, in 2008 – third follow-up of the Copenhagen Process – focused on the implementation of the European Credit System for Vocational Education and Training (ECVET) and the European Quality Assurance Reference Framework for Vocational Education and Training (EQAVET).

The Recommendation of the European Parliament and of the Council, June 18, 2009 on the establishment of a European Credit System for Vocational Education and Training (ECVET) is a key European tool with guidelines to boost the creation and implementation of a European credit system for Vocational Education and Training (VET). This Recommendation establishes common ECVET principles and technical specifications for ECVET and recommends wider ECVET promotion and implementation by all Member States.

In recent years, efforts have been made by the European Commission and Member States creating conditions for the ECVET implementation. In 2010, eight pilot projects were funded by the European Commission to test the ECVET implementation. ECVET has been considered a priority within the Lifelong Learning Programme (2007-2013) and the Erasmus+ Programme (2014-2020). In 2011, a network of 14 national agencies, known as NetECVET, came together to produce the *ECVET Mobility Toolkit* (<http://www.ecvet-toolkit.eu/>).

The Report on the implementation of the *Recommendation of the European Parliament and of the Council on ECVET*, published in 2014, found that ECVET projects strongly contributed towards the quality of mobility and awareness and understanding of learning outcome approaches. The Report recommends the need to: increase the political commitment at the national level or bring stronger permeability between VET and higher education; focus on the benefits and elements seen as most relevant, particularly learning outcomes; better align ECVET with other recognition and transparency tools, particularly Europass, European Qualifications Framework (EQF) and European Credit Transfer and Accumulation System (ECTS).

To develop high quality and relevant labour market vocational skills and qualifications, based on learning outcomes, the *Riga Conclusions* (June 2015) on a new set of medium-term deliverables in the field of VET for the period 2015-2020, recommends: promoting work-based learning, with special attention to apprenticeships; further developing quality assurance mechanisms in VET in line with the EQAVET recommendation and, as part of the quality assurance systems, establish continuous information and feedback loops in Initial Vocational Education and Training (I-VET) and Continuing Vocational Education and Training (C-VET) systems based on learning outcomes.

The *Draft 2015 Joint Report of the Council and the Commission on the implementation of the Strategic framework for European cooperation in education and training (ET2020)* – 2015 – confirmed the transparency and recognition of skills and qualifications to facilitate learning and labour mobility as one of six new priority areas for European cooperation in Vocational Education and Training.

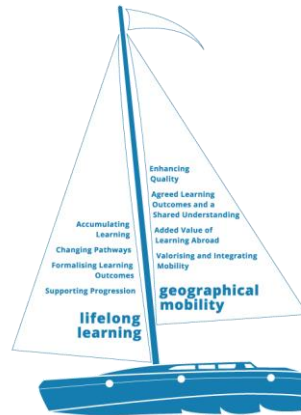
The *Communication: New Skills Agenda for Future*, presented in 2016 by the European Commission, launched 10 actions in order to equip people in Europe with better skills and make reference to the possible future revision of ECVET. The 10 actions are centred in three key work strands: improving the quality and relevance of skills formation; making skills and qualifications more visible and comparable; improving skills intelligence and information for better career choices.

2.3 Benefits of European Credit System for Vocational Education and Training (ECVET)

ECVET brings a set of benefits, from the geographic mobility point of view², by contributing towards visibility and recognition of learning outcomes achieved abroad, which is crucial for enhancing VET mobility, namely:

- targets the recognition of learning outcomes through a transparent process;
- provides a framework for the assessment, validation, and recognition of learning outcomes;
- promotes the integration of mobility into existing learning pathways;
- supports the value of key competences alongside those that are more technically – or vocationally – oriented;
- contributes towards the development of a common language among VET stakeholders and promotes mutual trust within the wider VET community.

Figure 1: Benefits of ECVET



Source: <http://www.ecvet-toolkit.eu/introduction/why-use-ecvet>

From the lifelong learning point of view³, ECVET supports the flexibility of programmes and pathways. ECVET enhances the opportunities for lifelong learning making it easier to recognize the learning achievements that youths or adults gained in other contexts, such as in other countries, organizations, or systems, as well as in different settings (formal, non-formal, or informal learning).

2.4. ECVET Stage of Development in the Countries of the REGULAITE Consortium

In accordance with the European Commission's Mobility Scoreboard⁴, 2019, the indicator "Recognition of learning outcomes" obtained the following results for VET:

- Germany – Very good performance
- Ireland – Some progress has been done
- Italy – Good performance
- Portugal – Good performance

Image 2 illustrates these results.

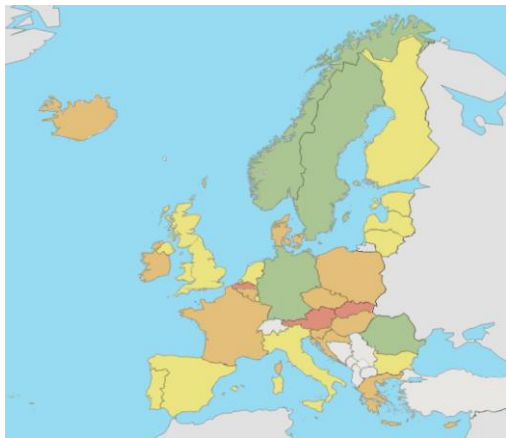
² <http://www.ecvet-toolkit.eu/introduction/why-use-ecvet>

³ <http://www.ecvet-toolkit.eu/introduction/why-use-ecvet>

⁴ The European Commission's Mobility Scoreboard has been developed by Eurydice (higher education) and Cedefop (Initial Vocational Education and Training - IVET). It follows up on the 2011 'Youth on the Move' Recommendation of the Council of the European Union, providing a framework for monitoring progress made by European countries in creating a positive environment supporting learner mobility. Indicators aim to help countries identify actions to remove obstacles to learner mobility.

The indicator for monitoring developments in the area of recognition is defined based on country performance with respect to seven criteria⁵. Indicator colours represent average country scores, which are calculated on the basis of criteria-specific scores.

Figure 2: Recognition of learning outcomes in Europe for VET (2019).



Legend:

4.5 < Country's score in the indicator	Excellent performance
3.5 < Country's score in the indicator ≤ 4.5	Very good performance
2.5 < Country's score in the indicator ≤ 3.5	Good performance
1.5 < Country's score in the indicator ≤ 2.5	Some progress has been made
Country's score in the indicator ≤ 1.5	Little progress has been made yet

Source: <https://national-policies.eacea.ec.europa.eu/mobility-scoreboard/ivet-indicators/recognition-of-learning-outcomes/2019>

Concerning the range of learning components that can be taken into account for the recognition of learning outcomes acquired abroad by VET learners, countries are distinguished depending on the variety of learning components that their approach to recognition covers. The components considered are courses, credit points, units, modules, programmes, qualifications/diplomas/degrees.

⁵ The indicator for monitoring developments in the recognition of learning outcomes is based on the following seven criteria:

- Countries have a process for setting up countrywide policy targets (whether quantitative or qualitative) in the area of recognition of learning outcomes acquired abroad by IVET learners;
- The recognition mechanism can take into account the six following types of learning components and outcomes: courses, credit points, units, modules, programmes, and qualifications / diplomas / degrees;
- The approach to recognition is coordinated countrywide;
- The existing approach to recognition is subject to evaluation oriented to improving the next generation of this policy strand;
- After the end of the mobility period or upon submission of a request for recognition, there is a short (six weeks or less) regulatory time limit for granting recognition or processing applications for recognition;
- Where necessary, there is an evaluated policy for making more visible contact points where IVET learners can obtain information on how learning outcomes and qualifications acquired abroad can be recognised and certified;
- The Europass Mobility Document, Europass Certificate Supplement, ECVET, the EQF/NQF, and the learning outcomes approach are in use in the country for purposes of visibility, transfer and recognition in IVET international mobility.

Available at: [Scoreboard Indicators in Initial Vocational Education and Training | YouthWiki \(europa.eu\)](#)



According to the mobility scoreboard in 2021, the situation for the partnership countries was as follows⁶: Germany, Ireland and Portugal cover all six types of components, while Italy only recognizes three types (credit points, units of learning outcome and qualifications/diplomas/degrees). Overall coordination in VET mobility policy shows that all project partners have a complete countrywide coordination with decentralised implementation, with the exception of Ireland, where issues on recognition are currently being addressed by QQI (Quality and Qualifications Ireland) and SOLAS (Further Education and Training Authority), although no policy or process changes have been made to date. Regarding the time limit for processing applications and/or granting recognition, the country fiches for 2021, shows that:

- in Ireland, the recognition process is not subject to a regulatory time limit.
- in Italy, there is no time limit set for processing recognition requests;
- in Germany, the sending organization has to ensure that competencies relevant for the qualification are acquired, so in practice a recognition process doesn't exist;
- in Portugal, the regulatory time limit for processing recognition is 30 working days.

Finally, the analysis of use of EU tools for visibility, transfer and recognition of learning outcomes acquired abroad in VET, five tools are considered: Europass Mobility Document; Europass Certificate Supplement; ECVET; EQF/NQF; learning outcomes approach. Countries are distinguished depending on the number of tools they are using and in 2021, the situation was as follows: Germany, and Portugal use all five European tools, Italy uses three and in Ireland only two European tools are in use.

2.5. How does the European Credit System for Vocational Education and Training (ECVET) Work?

ECVET implementation requires that qualifications be described in terms of learning outcomes, which should be grouped into units of learning outcome (European Parliament and Council, 2009). Learning outcomes can be achieved by individual learners through various different learning pathways and different learning contexts.

A qualification should be composed of a set of units of learning outcome, and the units can be accumulated and transferred to obtain a certain qualification. To do so, a credit point system has to be put into practice. A certain number of credit points must be assigned to the qualification. A qualification and each unit of learning outcome must be represented by a specific number of credit points.

Credits can be accumulated and transferred. Credit transfer consists of a process through which learning outcomes achieved in one context can be validated and recognized and taken into account in another context. Credit transfer implies a previous evaluation, validation, and recognition of learning outcomes. Credit accumulation consists of a process through which learners can progressively achieve qualifications by successive assessment processes and validation of learning outcomes. Within the ECVET framework, ECVET points allocated to qualifications and units of learning outcome are recommended. ECVET points are *“a numerical representation of the overall weight of learning outcomes in a qualification and of the relative weight of units in relation to the qualification”* (European Parliament and Council, 2009). The number of ECVET points allocated to a qualification, alongside units, learning outcomes and EQF level, can support the understanding of a qualification. *“The number of ECVET points allocated to a unit provides the learner with information concerning the relative weight of what he/she has accumulated already. It also provides the learner with information concerning what remains to be achieved.”* (Aribaud and Hess, 2011, p. 22).

⁶ <https://www.cedefop.europa.eu/en/tools/mobility-scoreboard/country-fiches>

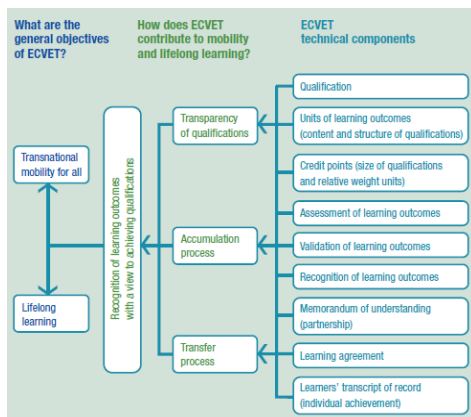
Figure 3: Diagram on ECVET implementation.



Source: <http://www.ecvet-toolkit.eu/introduction/ecvet-principles-and-technical-components>

Units of learning outcomes achieved in a given context have to be assessed. Assessment of learning outcomes means the “*methods and processes used to establish the extent to which a learner has in fact attained particular knowledge, skills and competence*” (European Parliament and Council, 2009). After successful assessment, learning outcomes can be transferred to another context, for example, to another country. In this second context, learning outcomes have to be validated and recognized by the competent institution as part of the requirements for the qualification that the learner is aiming to achieve.

Figure 4: Diagram on ECVET principles and technical components



Source: Cedefop (2012). Necessary conditions for ECVET implementation. Luxembourg: Publications Office of the European Union.



In the ECVET recommendations (European Parliament and Council, 2009), validation of learning outcomes is defined as “the process of confirming that certain assessed learning outcomes achieved by a learner correspond to specific outcomes which may be required for a unit or a qualification” and the recognition of learning outcomes is defined as “the process of attesting officially achieved learning outcomes through the awarding of units or qualifications”. According to the same source, “credit transfer based on ECVET and applied to learning outcomes achieved in formal learning contexts should be facilitated by establishing partnerships and networks involving competent institutions, each of which is empowered, in their own setting, to award qualifications or units or to give credit for achieved learning outcomes for transfer and validation”.

2.6 Integration of EQF and ECVET principles into REGULAITE Curricula design

For the design of the REGULAITE curricula the following methodology is going to be followed:

1. Identification of the learning outcomes;
2. Defining units of learning outcomes;
3. Attributing of ECVET points and credits to the units of learning outcomes.

The EQF and ECVET principles are going to be incorporated in this methodology.

2.6.1 Identifying the Learning Outcomes

The identification of the learning outcomes is the essential part of designing a training programme. The main aim of project REGULAITE is to develop a skills strategy in the field of Continuous Professional Training on Ethics and Regulation of Artificial Intelligence for professional profiles most affected by the lack of skills in this area. Therefore, learning outcomes must be defined according to their needs, prior to defining the training content and training methodology and evaluation. This is the basic principal for ECVET implementation. Learning outcomes should be clearly identified and described in accordance with a common conceptual framework in order to allow a reciprocal understanding of the qualification.

What are Learning Outcomes?

In VET programmes, learning outcomes are being referenced to a functional or research-based analysis of labour market demand, based in occupational standards, and associated professional competences. Usually, countries formulate their categorisation of knowledge, skills, competences, aptitudes, or attitudes. (CEDEFOP, 2009)

Learning Outcomes have been described (European Parliament and Council, 2009) as “statements of what a learner knows, understands and is able to do upon completion of a learning process and which are defined in terms of knowledge, skills and competence”.

Within the context of the REGULAITE Project, learning outcomes are understood as a set of knowledge, skills and competences needed to put key realizations or key tasks by learners into practice. Therefore, learning outcomes are described in terms of knowledge, skills and competences. The description of the knowledge, skills and competences are interconnected for each key technical outcome.

For the formulation of REGULAITE learning outcomes the following points should be taken into consideration:

- Learning outcomes are described from the perspective of the learner and focus on the results that are expected to be achieved upon the completion of the learning process.
- Learning outcomes are focused as outputs, instead of being focused as inputs (learning targets or learning path).



- Learning outcomes should be verifiable and assessable.
- Learning outcomes refer to vocational qualifications at EQF level 5 and should follow the relevant descriptors.

Knowledge (European Parliament and Council, 2008) is *“the body of facts, principles, theories, and practices that is related to a field of work or study. In the context of the European Qualifications Framework, knowledge is described as theoretical and/or factual.”*

Within the context of the Project *REGUAITE*, we propose that **knowledge** should be described in terms of **what the learner knows and understands**. It is the description of what the learner knows, the body of facts, principles, theories, and practice which are related to a field of work or study that are implied.

The knowledge description integrates four categories – factual, conceptual, procedural, and metacognitive – which are assumed to lie along a continuum from concrete (factual) to abstract (metacognitive). (Anderson, L.W. et al., 2001)

The depth and breadth dimensions are important for the definition and description of knowledge and depend on the selected level of EQF⁷. Since the *REGUAITE* curriculum is based on EQF level 5 learning outcomes in term of knowledge are *“Comprehensive, specialized, factual and theoretical within the specific field of work or study and an awareness of the boundaries of that knowledge”* (European Parliament and Council of European Union, 2008).

Skills can be described as a set of abilities available to perform a specific task. *“Skills’ means the ability to apply knowledge and use know-how to complete tasks and solve problems.”* (European Parliament and Council, 2008)

As in the domain of knowledge, in the skills description various levels of **depth** and **breadth** are also considered⁸. In line with the EQF level 5 suggestions that *REGUAITE* follows, skills are described as cognitive (involving the use of logical, intuitive, and creative thinking) and practical (involving manual dexterity and the use of methods, materials, tools and instruments) required to develop creative solutions to abstract problems (European Parliament and Council, 2008).

Within the context of the Project *REGUAITE*, we propose that **skills** are described in terms of **what the learner is able to do**. In the *REGUAITE* methodology, the description of the skills must obey, in terms of writing, to the structure of the statement initiated by the verb that indicates the type of skill, conjugated in the infinity, followed by the description of the action.

Competences are *“the proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development”* (European Parliament and Council, 2008).

The European Qualifications Framework defines competence in terms of responsibility and autonomy.

Within the context of the Project *REGUAITE*, we propose that **competence** be described in terms of **what the learner does, applying knowledge, skills, and other soft skills and methodological abilities**. For qualifications reporting to EQF level 5, it is expected that the learner puts into practice specialized factual and theoretical knowledge, comprehensive range of cognitive and practical skills, higher personal, social and/or methodological abilities, with a higher degree of depth, breadth, and dexterity, carrying out management and supervision of work where there is unpredictable change, reviewing and developing performance of self and others.

⁷ <https://eurspace.eu/ecvet/ecvet-methodological-guide-for-professionals/ecvet-methodological-guide-for-professionals-view-online/>

⁸ <https://eurspace.eu/ecvet/ecvet-methodological-guide-for-professionals/ecvet-methodological-guide-for-professionals-view-online/>



According to *REGUAITE* methodology, the description of the competence must obey, in terms of writing, to the structure of the statement initiated by the action verb that indicates the type of competence, conjugated in the present simple and continuous forms, followed by the description of the observable action.

2.6.2 Defining units of Learning Outcomes

The second step of the methodology is to **group learning outcomes into units and define the units of learning outcomes that compose the qualification**⁹.

Units of learning outcomes can be considered as one technical specification to put ECVET into practice. ECVET implementation requires not only that the qualifications be described in terms of learning outcomes, but also that learning outcomes be brought together in units.

What are units of learning outcomes?

A unit of learning outcomes is a concept different from a course or a module of a training framework. It is a component of a qualification, consisting of a coherent set of knowledge, skills and competence that can be assessed and validated with a number of associated ECVET points. A qualification comprises several units and is made up of the whole set of units. Thus, a learner can achieve a qualification by accumulating the required units, achieved in different countries and different contexts (formal and, where appropriate, non-formal and informal), while respecting national legislation relating to the accumulation of units and the recognition of learning outcomes.

A unit may be specific to a single qualification or common to several qualifications. The expected learning outcomes defining a unit may be achieved irrespective of where or how these have been achieved (European Parliament and Council, 2009).

Units of learning outcomes should be described as occupational activities and key technical tasks¹⁰.

Units of learning outcomes have to be assessable. The description of the unit also has to include the performance criteria related to the learning outcomes of each key technical outcome. Due to the fact that learning outcomes focus on the results achieved upon completion of a learning process, both contextual conditions, learning processes, learning methodologies and resources are considered with no additional relevance for the description of the unit of learning outcomes.

Grouping learning outcomes into units in REGULAITE project

In the context of the Project *REGULAITE*, we propose that units of learning outcomes be understood as a coherent set of knowledge, skills and competences needed to put into practice key realizations or key tasks, which are interconnected in a coherent, comprehensible, and logical set of key technical outcomes, observable and verifiable in outputs.¹¹

The main rule for grouping learning outcomes into units is the coherence, interconnectivity, reciprocity and interdependence of knowledge, skills and competences associated with each key technical outcome among each other.

The following criteria are taken into account to group learning outcomes:

⁹ <https://eurspace.eu/ecvet/pedagogicalkit/framework-for-grouping-common-learning-outcomes-in-nuclear-units//>

¹⁰ <https://eurspace.eu/ecvet/pedagogicalkit/framework-for-grouping-common-learning-outcomes-in-nuclear-units//>

¹¹ <https://eurspace.eu/ecvet/pedagogicalkit/framework-for-grouping-common-learning-outcomes-in-nuclear-units//>

- relation of learning outcomes to the same set of key technical tasks;
- relation of learning outcomes to the same outcome;
- relation of learning outcomes to the same technique.

Each unit of learning outcomes is composed of one or more key technical outcomes which are interconnected and lead to observable and evaluable outputs.

Whenever possible, units of learning outcomes should be designed in such a way that can be achieved as independently as possible of other units, so that learning outcomes in a qualification should be assessed only once.

Figure 5: Unit of learning outcomes in REGUAITE.



Source: Adapted from <https://eurspace.eu/ecvet/ecvet-methodological-guide-for-professionals/ecvet-methodological-guide-for-professionals-view-online/>

Unit of learning outcomes components

Following the ECVET technical specifications (European Parliament and Council, 2009) for the purposes of the Project REGUAITE, it is considered that a unit of learning outcomes should be composed by the following components:

EQF Level

Title of the Unit

The title of the unit should be as short as possible and should reflect the importance of the learning outcomes for the labour market. The title should reflect the global learning outcomes that are contained in the unit, and not focusing only on some of them.

Key Technical Outcomes

Key technical outcomes are statements that express the main technical tasks that the learner has to perform to prove a specific output. Key technical outcomes are expressed in a simple, short, and objective statement, beginning by the action verb that indicates the main technical task that the learner has to perform, conjugated in the infinitive.

Knowledge

Knowledge is the theoretical and/or factual body of facts, principles, theories, and practices that are related to a field of work or study. Knowledge is described in terms of what the learner knows and understands.



Skills

Skills are cognitive or practical abilities to apply knowledge and use know-how to complete tasks and solve problems. Skills are described in terms of what the learner is able to do.

Competence

A competence is considered the proven ability to use knowledge, skills and personal, social and/or methodological abilities at work or in academic situations and in professional and personal development. Competences are described in terms of what the learner does, applying knowledge, skills, and proving the following abilities: attitudes, personal, social, and methodological.

Performance Criteria

Performance criteria are the quality requirements associated with performance and the quality standards that ensure that the individual acts competently (required quality for achievements). The performance criteria are specifically associated with each key technical outcome and respective set of knowledge, skills and competence.

Performance criteria are measurable, observable and provide qualitative important information on the expected performance.

Outputs

Outputs are the results, the obtained products, or the proof. The outputs are directly associated with key technical outcome and performance criteria, being the observable result of the performance. Outputs are described in a clear, objective, and short manner, expressing the main nuclear professional proof for a given qualification.

Number of Hours

The number of hours is an indicator that helps to balance the size of the unit and it is a fundamental indicator for the assignment of ECVET Points.

ECVET Credit Points

The allocation of ECVET Points to units of learning outcomes is crucial for the validation and recognition of the acquired learning outcomes. The attribution of Credit Points is important for the reason that credits represent the volume of learning outcomes achieved by the learner. Credits express the volume of learning outcomes involved in each unit of learning outcome.

Table 7 presents a template to be used for the elaboration of a unit of learning outcomes, within an example on how to define learning outcomes on bioinformatics, EQF level 5.



Table 4: Example on how to describe a Unit of Learning Outcome following the methodology proposed in Project REGULAITE

Comentado [CB1]: Please note that this is just an example of how the content of a unit/module could be described. The final version will contain the example of an actual unit/module.

EQF LEVEL	UNIT OF LEARNING OUTCOME			HOURS	CREDITS
5	LIABILITY AND RISK MANAGEMENT			?	?
KEY TECHNICAL OUTCOME	KNOWLEDGE	SKILLS	COMPETENCE		
1. Analyse EU legislation and regulations regarding the standards related to risk assessment and product safety.	The Learner knows and understands: <ul style="list-style-type: none"> EU legislation, regulations, and standards regarding product safety. Differences between standards and regulations. 	The Learner is able to: <ul style="list-style-type: none"> Apply EU legislation and regulations regarding product safety. Apply EU standards to risk management processes. 	The Learner: <ul style="list-style-type: none"> Acts in conformity with EU laws on product safety. Recognizes risk management procedures. 		
	PERFORMANCE CRITERIA				
	<ul style="list-style-type: none"> Understanding EU directives and legislation, related to product safety. Applying EU directives and legislation, related to product safety, within the organization's work plan. Developing a Risk Management plan considering the organizational context, taking into consideration: <ul style="list-style-type: none"> organizational culture; strategies to manage in the workplace; compliance with policies on Product Safety. Elaborating a checklist on product safety standards, to be used in the organizational context, and to periodically validate its Risk Management strategy. 				
OUTPUTS					
<ul style="list-style-type: none"> Briefly define a Risk Management strategy appropriate to the context of the organisation. Implement a checklist that can be used in the organizational context for participants to periodically validate their Risk Management strategy. 					

Source: <https://eurspace.eu/ecvet/qualification-benchmarks-based-on-learning-outcomes/>



2.6.3 Attributing ECVET Points and Credits to Units of Learning Outcomes

In the Project *REGULAITE*, **ECVET credit points are allocated** to each unit of learning outcomes, so it can be possible to transfer and accumulate units of learning outcomes. **Each unit is represented by a specific number of ECVET Points**. These procedures are considered very important in order to ensure the **processes of validation and recognition of learning outcomes**, as well as **credits transfer and accumulation (European Parliament and Council, 2009)**.

What are Credit Points?

“Credit for learning outcomes (credit) means a set of learning outcomes of an individual which have been assessed and which can be accumulated for a qualification or transferred to other learning programmes or qualifications”. (European Parliament and Council, 2009)

A credit system associated with qualifications implies that the qualification and each unit is represented by a specific number of Credit points. Credit points supplement the units (or sub-units). They express the volume of learning outcomes involved in each unit and also give information on the relative weight of the units which make up a qualification. Credit refers to the fact that the learner has achieved the expected learning outcomes which have been assessed positively and the outcome of the assessment is documented in a personal transcript. Based on this documentation, other institutions can recognise the learners’ credits. Credit points represent the volume of learning outcomes achieved by the learner. Credit points are acquired by the individual at the same time as the units, sub-units and, if necessary, part of a unit are achieved, accumulated within the learning pathway and used to indicate the learners’ progress and the completion of an individual learning pathway leading to a qualification. Credit points may be used to allow a learner: to move from one qualification to another within the same EQF level; to move from one qualification level to another; to move from one learning system to another. Credit points are not automatically recognized. Recognition is a decision taken at the national level by the competent bodies responsible for the qualification or of its implementation. (European Commission, 2011)

How to transfer and accumulate Credits?

Credit transfer is the process through which learning outcomes achieved in one context can be taken into account in another context. **Credit transfer is based on the processes of assessment, validation and recognition**. In order to be transferred, learning outcomes have to be assessed. The outcome of the assessment is recorded in a learner’s personal transcript and constitutes credits. On the basis of the assessed outcomes, the credit can be validated and recognised by another competent institution. Two cases of credit transfer exist:

- Credit transfer in the framework of partnerships for mobility – in which Credit Points are converted to ECVET Points. When the credit transfer takes place in the framework of organized mobility, underpinned by a learning agreement, if the assessment is positive, credit should be validated and recognised automatically;
- Credit transfer outside partnerships – it depends on the rules established by the National Qualifications Frameworks.

Credit accumulation is a process through which learners can acquire a given qualification in a progressive way by successive assessments and validation of learning outcomes. When the learner has accumulated the required credit for the qualification and when all conditions for the award of the qualification are fulfilled, the learner is awarded the qualification. In ECVET, accumulation is enabled by the use of units of learning outcome which can be progressively assessed, validated, and recognized. (European Commission, 2011)



What are ECVET Points?

ECVET points are “a numerical representation of the overall weight of learning outcomes in a qualification and of the relative weight of units in relation to the qualification” (European Parliament and Council, 2009). They provide information about qualifications and units in a numerical form, and they refer and reflect the achievement and accumulation of units. The number of ECVET points allocated to a unit of learning outcomes provides the learner with information concerning the relative weight of what has been already achieved and accumulated, as well as, what remains to be achieved in order to acquire the qualification.

Allocation of ECVET points to units of learning outcomes in *REGULAITE* project

Within the context of the Project *REGULAITE*, the attribution of ECVET points to units of learning outcomes follows the convention to which 60 points are allocated to the learning outcomes expected to be achieved in a year of full time formal Vocational Education and Training, in accordance with the relevant recommendations (European Parliament and Council of European Union, 2009). Following the convention, for a given qualification, a VET formal learning context is taken as a reference in each country and on the basis of 60 ECVET points per year of formal full time VET, the total number of ECVET points are assigned to the qualification.



CHAPTER 3: EUROPEAN QUALITY ASSURANCE IN VOCATIONAL EDUCATION AND TRAINING (EQAVET)

3.1 What is EQAVET?

The European Quality Assurance in Vocational Education and Training (EQAVET) is a practice that brings Member States, Social Partners and the European Commission together to promote European collaboration by developing and improving quality assurance in Vocational Educational and Training¹².

The *Recommendation of the European Parliament and Council (2009)* on the establishment of a European Quality Assurance in Vocational Education and Training established a European quality assurance reference framework, comprised of a quality assurance and improvement cycle, with four phases – planning, implementation, evaluation/assessment and review/revision – based on a selection of quality criteria, descriptors and indicators applicable to quality management of both VET-system and VET-provider levels.

The aim of the *framework* is to contribute towards quality improvement in VET systems and VET policy developments between Member States, in order to increase the transparency, consistency and mutual trust in VET systems, facilitating the mobility of workers and learners, and lifelong learning.

3.2 How does EQAVET Work?

EQAVET embraces a quality assurance and improvement cycle which is applicable at the system level and at the level of VET providers, supported by quality criteria and indicators to be used¹³.

EQAVET quality cycle includes four interrelated phases¹⁴:

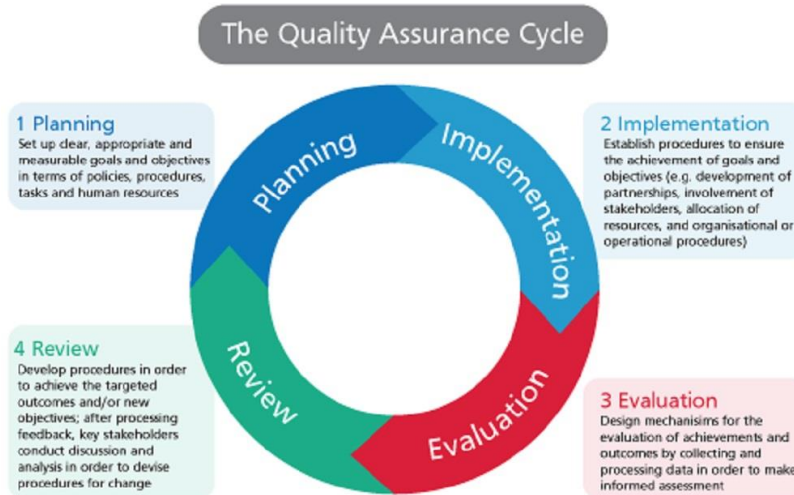
1. **Stage 1:** Planning – Set up clear, appropriate, and measurable goals and objectives in terms of policies, procedures, tasks, and human resources.
2. **Stage 2:** Implementation – Establish procedures to ensure the achievement of goals and objectives (e.g., development of partnerships, involvement of stakeholders, allocation of resources and organizational or operational procedures).
3. **Stage 3:** Evaluation – Design mechanisms for the evaluation of achievements and outcomes by collecting and processing data in order to make informed assessments/evaluation.
4. **Stage 4:** Review – Develop procedures in order to achieve the targeted outcomes and/or new objectives; after processing feedback, key stakeholders conduct discussion and analysis in order to devise procedures for change.

¹² <https://www.eqavet.eu/About-Us/Mission>

¹³ <https://www.eqavet.eu/EU-Quality-Assurance>

¹⁴ [https://www.eqavet.eu/Aligning-with-EQAVET/Aligning-a-QA-approach/Bruges-communicue-\(1\)](https://www.eqavet.eu/Aligning-with-EQAVET/Aligning-a-QA-approach/Bruges-communicue-(1))

Figure 6: The four phases of the quality assurance model.



Source: Adapted from [https://www.eqavet.eu/Aligning-with-EQAVET/Aligning-a-QAapproach/Bruges-communique-\(1\)](https://www.eqavet.eu/Aligning-with-EQAVET/Aligning-a-QAapproach/Bruges-communique-(1))

For the Project REGULAITE purposes, emphasis will be given to the **application of EQAVET at the VET provider level.**

The four stages of the quality assurance cycle are interrelated and need to be addressed together.

The quality assurance cycle – planning, implementation, evaluation and review of VET – is supported by common quality criteria, indicative descriptors and a set of indicators. Indicators are used as a toolbox from which VET providers can select the more relevant indicators for their quality assurance system. Indicative descriptors help VET providers to consider their approach to quality assurance and to know-how much progress has been made¹⁵.

EQAVET Indicative Descriptors for Stage 1 – Planning:

- Explicit goals/objectives and targets are set and monitored, and programmes are designed to meet them.
- Ongoing consultation with social partners and all other relevant stakeholders takes place to identify specific local/ individual needs.
- Providers plan cooperative initiatives with other VET providers and all other relevant stakeholders.

EQAVET Indicative Descriptors for Stage 2 – Implementation:

- Relevant and inclusive partnerships, including those between teachers and trainers, are explicitly supported to implement the actions planned.
- VET providers’ programmes enable learners to meet the expected learning outcomes and become involved in the learning process.

¹⁵ <https://www.eqavet.eu/EU-Quality-Assurance/For-VET-Providers/Building-your-System/Review/Indicative-Descriptors>



- VET providers respond to the learning needs of individuals by using approaches to pedagogy and assessment which enable learners to achieve the expected learning outcomes.
- VET providers use valid, accurate and reliable methods to assess individuals' learning outcomes.

EQAVET Indicative Descriptors for Stage 3 – Evaluation:

- Evaluation and review the collection and use of data, and adequate and effective mechanisms to involve internal and external stakeholders.

EQAVET Indicative Descriptors for Stage 4 – Review:

- Learners' feedback is gathered on their individual learning experience and on the learning and teaching environment. Together with teachers', trainers' and all other relevant stakeholders' feedback this is used to inform further actions.
- Procedures on feedback and review are part of a strategic learning process in the organization, support the development of an high quality provision, and improve opportunities for learners.

The Recommendation of the European Parliament and Council (2009) set out 10 indicators which can be used to support the evaluation and quality assurance of VET. They are also part of a toolbox and can be selected to meet the circumstances and requirements of the user.

Indicator no 1

Relevance of quality assurance systems for VET providers:

- (a) share of VET providers applying internal quality assurance systems defined by law/at own initiative;
- (b) share of accredited VET providers.

Indicator no 2

Investment in training of teachers and trainers:

- (a) share of teachers and trainers participating in further training;
- (b) amount of funds invested.

Indicator no 3

Participation rate in VET programmes:

Number of participants in VET programmes (1), according to the type of programme and the individual criteria (2)

(1) For I-VET: a period of 6 weeks of training is needed before a learner is counted as a participant. For lifelong learning: percentage of population admitted to formal VET programmes.

(2) Besides basic information on gender and age, other social criteria might be applied, e.g., early school leavers, highest educational achievement, migrants, persons with disabilities, length of unemployment.

Indicator no 4

Completion rate in VET programmes:

Number of persons having successfully completed/abandoned VET programmes, according to the type of programme and the individual criteria

Indicator no 5

Placement rate in VET programmes:

- (a) destination of VET learners at a designated point in time after completion of training, according to the type of programme and the individual criteria (3);



(b) share of employed learners at a designated point in time after completion of training, according to the type of programme and the individual criteria

(3) For I-VET: including information on the destination of learners who have dropped out.

Indicator no 6

Utilization of acquired skills at the workplace:

(a) information on occupation obtained by individuals after completion of training, according to type of training and individual criteria

(b) satisfaction rate of individuals and employers with acquired skills/competences.

Indicator no 7

Unemployment rate (4) according to individual criteria (4) Definition according to ILO and OECD: individuals aged 15-74 without work, actively seeking employment and ready to start work

Indicator no 8

Prevalence of vulnerable groups:

(a) percentage of participants in VET classified as disadvantaged groups (in a defined region or catchment area) according to age and gender

(b) success rate of disadvantaged groups according to age and gender

Indicator no 9

Mechanisms to identify training needs in the labour market:

(a) information on mechanisms set up to identify changing demands at different levels

(b) evidence of their effectiveness.

Indicator no 10

Schemes used to promote better access to VET:

(a) information on existing schemes at different levels

(b) evidence of their effectiveness

The placement of the indicators within the EQVET quality cycle is shown in the following table.

Table 5: Indicators per EQAVET cycle phase.

Planning	Indicators 1,2
Implementation	Indicators 3, 7, 7
Evaluation	Indicators 4, 5, 6
Review	Indicators 9, 10

3.3 Work-based Learning Building Blocks

The EQAVET working group¹⁶ has identified a set of building blocks which could support the implementation of work-based learning. These building blocks provide guidance and set up activities that could help VET providers to develop and implement a quality assurance approach for work-based learning procedures that are in line with the EQAVET framework.

¹⁶ <https://www.eqavet.eu/Aligning-with-EQAVET/Work-based-learning/Guidelines>

Table 6: Building Blocks for WBL¹⁷.

Building Blocks	Guidelines for implementation	Key Questions
Design	Work with partner organisations to ensure the relevance of learners' training during periods of work-based learning	<ul style="list-style-type: none"> o Which organisation to work with in order to provide high quality training? o Which courses/qualifications should learners follow?
Improve	Agree with partner organisations when the quality of training will be monitored and how improvements will be made	<ul style="list-style-type: none"> o How should organisation(s) take responsibility for monitoring quality? o When and how improvements will be made?
Respond	continue to be aware of the specific needs of learners throughout their work-based learning	<ul style="list-style-type: none"> o how to respond to learners' on-going or emerging training needs? o how to fix any problem experienced by a learner?
Communicate	ensure learners and partner organisations are kept well informed and receive frequent updates on all aspects of training	<ul style="list-style-type: none"> o the ways in which organisations involved in the training will communicate? o how each partner involved in the training keeps in touch with each other and the learners?
Train	ensure staff are well prepared for their training role which includes quality assurance	<ul style="list-style-type: none"> o how all staff will be made aware of how quality is assured? o which staff will need training in relation to quality assurance?
Assess	work with partner organisations to review the work-based training programme, assess and certify individual learner's achievement, where appropriate	<ul style="list-style-type: none"> o what type of assessment will be completed by the learner? o who will assess each learner – and has the learner been informed? o what a learner has to demonstrate to “pass” or complete the training?

3.4 The incorporation of EQAVET principles into REGULAITE quality assurance planning

For REGULAITE purposes the indicators 4 “Completion rate in VET programmes” and 6 “Utilization of acquired skills at the workplace” are going to be incorporated into the development of the project quality assurance process.

Possible key questions to be answered for the exploration of each indicator could be the following (Luomi-Messerer & Ulicna, nd).

Indicator 4

- Do learners with diverse needs successfully complete the VET programme If not what the VET provider can do about it?
- Do learners fail to complete VET programme? If so why?
- What completion rates and or her data tell about the VET provision?
- What are the emerging issues concerning the completion of the programme?
- In what way can the VET provider improve the situation?

Indicator 6

- Are programme participants satisfied with the information, advice and guidance they got from their provider after completing their training?
- Are employers and employees satisfied with the acquired skills/competences?
- How can the VET provider fit together the different needs and wants of employers and employees?

¹⁷ Adapted from EQAVET - Quality assuring work-based learning, available at: <https://www.eqavet.eu/Equavet2017/media/Documents/EQAVET-Quality-assuring-work-basedlearning.pdf>



- How can the VET provider suitably improve its information mechanisms?
- How can the VET provider raise the level of its stakeholders' satisfaction?
- What evidence does the VET provider have that both, learners and employers, value the full range of what people know and can do after completing a VET programme?

Furthermore, where relevant and applicable, during the implementation of work-based learning component of *REGULAITE* VET programme the afore mentioned key questions of building blocks could be effectively addressed.



BIBLIOGRAPHY

- Anderson, L.W. (Ed.), Krathwohl, D.R. (Ed.), Airasian, P.W., Cruikshank, K.A., Mayer, R.E., Pintrich, P.R., Raths, J., & Wittrock, M.C. (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's Taxonomy of Educational Objectives*. New York: Longman.
- Aribaud, M. and Hess (coord.). European Commission, DG EAC (2011). *The European Credit System for Vocational Education and Training ECVET. Get to know ECVET better. Questions and Answers*. ECVET Users' Group.
- CEDEFOP (2009). *The shift to learning outcomes. Policies and practices in Europe*. Luxembourg: Office for Publications of the European Communities. Cedefop reference series. No 72.
- CEDEFOP (2012). *Necessary conditions for ECVET implementation*. Luxembourg: Publications Office of the European Union.
- CEDEFOP (2014a). *Terminology of European education and training policy: a selection of 130 key terms*. Second edition. Luxembourg: Publications Office.
- CEDEFOP (2016). *Application of learning outcomes approaches across Europe: a comparative study*. Luxembourg: Publications Office. Cedefop reference series. No 105.
- CEDEFOP (2017). *Defining, writing and applying learning outcomes – a European Handbook*. Luxembourg: Publications Office of the European Union.
- Council of the European Union (2017). *Council Recommendation of 22 May 2017 on the European Qualifications Framework for lifelong learning and repealing the Recommendation of the European Parliament and of the Council of 23 April 2008 on the establishment of the European Qualifications Framework for lifelong learning*. Official Journal of the European Union. 2017/C 189/03).
- Directorate-General for Education, Youth, Sport and Culture, European Commission (2016). *Implementation of the Recommendation of the European Parliament and of the Council of 18 June 2009 on the establishment of a European Credit System for Vocational Education and Training (ECVET)*. EU Publications.
- European Commission, Directorate-General for Education and Culture (2005). *European Credit System for VET (ECVET) Technical Specifications (Report of the Credit Transfer Technical Working Group)*. Brussels: Credit Transfer Technical Working Group, 2005.
- European Commission, Directorate General Education and Culture; Education, Audiovisual and Culture Executive Agency (2018). *Erasmus+ Programme Guide*. Version 1, 2018.
- European Commission, DG EAC (2011). *Get to Know Better ECVET. Questions and Answers*. Brussels.
- European Parliament and Council (2008). *Recommendation of the European Parliament and of the Council of 23 April 2008 on the establishment of a European Qualifications Framework for Lifelong Learning*. Official Journal of the European Union. 2008/C 111/01), pp. 111/1-111/7.
- European Parliament and Council (2009). *Recommendation of the European Parliament and of the Council of 18 June 2009 on the establishment of a European Credit System for Vocational Education and Training (ECVET)*. Official Journal of the European Union. 2009/C 155/02), pp. 11-18.
- European Parliament and Council (2009). *Recommendation on the establishment of a European Quality Assurance Reference Framework for Vocational Education and Training*. Official Journal of the European Union. /C 155/1).



- Grün, G, Tritscher-Archan, S., Weiß, S. (2009). *Guidelines for the Description of Learning Outcomes*. Available at: http://www.ecvet-toolkit.eu/sites/default/files/Zoom_Guidelines_for_the_Description_of_Learning_Outcomes.pdf
- Kennedy, D. (2007). *Writing and using learning outcomes: a practical guide*. Cork, University College Cork.
- Lameira, S.; Curado, C., Silva, M.; Duarte, T. (2015). *Guia Metodológico – Conceção de qualificações baseadas em resultados de aprendizagem*. Agência Nacional para a Qualificação e o Ensino Profissional, I.P. Lisboa: Editorial do Ministério da Educação e Ciência.
- Luomi-Messerer, K. & Auzinger M. (2021). The European Credit System for Vocational Education and Training. Available at: <https://op.europa.eu/en/publication-detail/-/publication/cdd6f920-0a03-11ec-b5d3-01aa75ed71a1/language-en/format-PDF/source-227467894>
- Luomi-Messerer, K. & Ulicna, D. (nd). Description of units of learning outcomes. Examples from the 2nd generation of ECVET pilot projects. Available at: http://www.ecvet-projects.eu/Documents/Examples_Units%20of%20LO_guidelines_2nd%20generation.pdf
- Nunes, C. (2018). ECVET Methodological Guide for Professionals. Methodology developed within the EURspace Project. Available at: file:///C:/Users/epr/Downloads/ECVET_Methodological_Guide_for_Professionals_EN.pdf
- Office for Official Publications of the European Communities (2008). *The European Qualifications Framework for Lifelong Learning (EQF)*. Luxembourg. Publications Office of the European Union (2011). *Referencing National Qualifications Levels to the EQF, European Qualifications Framework Series: Note 3*. Luxembourg.
- Publications Office of the European Union (2011). *Using Learning Outcomes, European Qualifications Framework Series: Note 4*. Luxembourg.
- Publications Office of the European Union (2017). *Defining, writing and applying learning outcomes, A European handbook*. Luxembourg.

WEBSITES

- <http://www.anqep.gov.pt/>
- <https://ec.europa.eu/programmes/erasmus-plus/>
- <https://ec.europa.eu/social/main.jsp?catId=1536&langId=en>
- <https://erasmusmais.pt/>
- <https://eurspace.eu>
- <https://national-policies.eacea.ec.europa.eu/>
- <https://www.cedefop.europa.eu/en/news/ecvet-toolkit#group-downloads>
- <https://www.cedefop.europa.eu/en/projects/european-credit-system-vocational-education-and-training-ecvet>
- <https://www.cedefop.europa.eu/en/projects/european-qualifications-framework-eqf#:~:text=The%20European%20Qualifications%20Framework%20%28EQF%29%20is%20a%20common,39%20European%20countries%20currently%20involved%20in%20its%20implementation.>