



The European Technology Transfer Manager

# WP 8: DEVELOPMENT OF QUALITY STANDARDS

## D.8.1. Guidelines for the Application of ECVET to TTM Qualification



Lifelong  
Learning  
Programme

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## **Introduction**

The guidelines are result of the work in Work Package 8 of ETM project – Development of Quality Standards.

The content provides:

- systematized information about main aspects of policies and practices in the field of ECVET at EU level;
- model for allocation of ECVET points to the TTM qualification as a whole and to the separate units of learning outcomes, which comprise it, applicable to other qualifications;
- instructions for allocation of ECVET points to TTMs as a result of validation process.

The Guidelines are developed on the basis of:

1. The Recommendation of the European Parliament and the Council of 18 June 2009 of establishment of European Credit Transfer System for Vocational Education and Training (ECVET);
2. The Cedefop Guidelines for validating not formal and informal learning (2009);
3. Research on the results from pilot projects related with the Recommendation implementation;
4. The TTM Competence Profile developed in the frames of the project.
5. The experience gained during the work carried out under all previous work packages, especially piloting of expertise Check – up and pilot training.

## **1. Main aspects of policies and practices related with the establishment of European credit transfer system for vocational education and training (ECVET)**

### **1.1. What is ECVET?**

**ECVET** (the European Credit System for Vocational Education and Training) is a common instrument of the whole strategic European framework for cooperation in the field of vocational education and training (VET).

ECVET is a system for ***recognition, accumulation and transfer of learning outcomes aimed at acquiring vocational qualification.*** In this context the qualification is an official result of assessment and validation of the achieved individual learning outcomes, carried out by a competent institution and in compliance with definite standards.

One of the main ECVET aims is to achieve better compatibility between different VET systems in Europe. By ensuring recognition of the learning outcomes with respect to acquiring qualification in compliance with the national legislation, ECVET supports and stimulates mobility of citizens in EU. The system assures accumulation and transfer of credits in initial vocational training, allowing documentation of the knowledge, skills and competences acquired abroad, as well as agreed forms of regulation between national and European actors in VET. This way it creates conditions for every citizen to decide and control its own way of vocational and personal development, when being abroad and respectively in different learning environment.

ECVET is a basic instrument for implementation of lifelong learning policy. Establishing conditions for official recognition, accumulation and transfer of individually achieved learning outcomes, the system guarantees equity of the different forms of learning:

- formal education and training – it is carried out in the institutions for education and training and leads to acquiring of official document for education and/ or vocational qualification;
- non-formal training – organized form of learning outside the official education and training institutions, which leads to acquiring, broadening and improvement of personal, citizenship and vocational knowledge, skills and competences;
- in-formal learning – self-training in the process of fulfillment of different activities and through individual search and mastering information, which leads to acquiring or improvement of already acquired knowledge, skills and competences.

### **1.2. ECVET and ECTS – similarities and differences**

The development of ECVET is based on European Credit Transfer System (ECTS) for support of students' mobility in Europe, which has been developed since 1989.

The main similarity between ECVET and ECTS are the objectives of the two systems, namely transfer and acquiring credits, mobility of pupils, students and workers.

The difference between the two instruments is related with their scope. ECTS is for the higher education (HE), ECVET – for VET, including the continuing training and informal learning.

Another difference concerns the learning outcomes on which both systems emphasize. According to ECTS, the qualification framework of European space of higher education defines the following learning outcomes:

- knowledge and understanding;

- implementation of acquired knowledge;
- decision making;
- communication skills;
- learning to learn skills.

With respect to ECVET, the European qualifications framework defines the learning outcomes as:

- knowledge;
- skills;
- competences.

Coherent implementation of both systems will contribute to greater unity between HE and VET and this way to greater mobility in Europe (horizontal and vertical).

### **1.3. Recommendation of the European Parliament and of the Council of the establishment of a European Credit System for Vocational Education and Training (ECVET), June 2009**

In the Recommendation it is pointed out that ECVET is applicable for all learning outcomes which in principle should be achieved through different education and training pathways at all levels of European Qualifications Framework (EQF) and after that transferred and recognized.

The aim is to facilitate compatibility, comparability and mutual complementation between ECVET and ECTS and this way to contribute to better links between the different levels of education and training, in compliance with the national legislation and practice.

It should be noted that ECVET does not imply any new entitlement for citizens to obtain the automatic recognition of either learning outcomes or points. Its application for a given qualification is in accordance with the legislation, rules and regulations applicable in the Member States and is based on the following ***principles and technical specifications***<sup>1</sup>:

#### ***A. Units of learning outcomes***

A unit is a component of a qualification, consisting of a coherent set of knowledge, skills and competence that can be assessed and validated. To each unit a definite number of ECVET points are assigned. A qualification comprises in principle 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. Thus, a unit is not to be confused with a component of a formal learning programme or training provision.

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<sup>1</sup> 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), *ANNEX II*. ECVET — Principles and technical specifications

The rules and procedures for defining characteristics of units of learning outcomes and for combining and accumulating units for a given qualification are defined by competent institutions and partners involved in the training process according to the national rules.

The specifications for a unit should include:

- the generic title of the unit;
- the generic title of the qualification (or qualifications) to which the unit relates, where applicable;
- the reference of the qualification according to the EQF level and, where appropriate, the national qualifications framework (NQF) level, with the ECVET credit points associated with the qualification;
- the learning outcomes contained in the unit;
- the procedures and criteria for assessment of these learning outcomes;
- the ECVET points associated with the unit;
- the validity in time of the unit, where relevant.

### ***B. Transfer and Accumulation of learning outcomes, ECVET partnerships***

In ECVET, units of learning outcomes achieved in one setting are assessed and then, after successful assessment, transferred to another setting. In this second context, they are validated and recognised by the competent institution as part of the requirements for the qualification that the person is aiming to achieve. Units of learning outcomes can then be accumulated towards this qualification, in accordance with national or regional rules. Procedures and guidelines for the assessment, validation, accumulation and recognition of units of learning outcomes are designed by the relevant competent institutions and partners involved in the training process.

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.

The establishment of partnerships aims to:

- provide a general framework of cooperation and networking between the partners, set out in Memoranda of Understanding (MoU) through which a climate of mutual trust is established;
- assist the partners in the design of specific arrangements for credit transfer for learners.

The MoU should confirm that the partners:

- accept each other's status as competent institutions;
- accept each other's quality assurance, assessment, validation and recognition criteria and procedures as satisfactory for the purposes of credit transfer;
- agree the conditions for the operation of the partnership, such as objectives, duration and arrangements for review of the MoU;
- agree on the comparability of qualifications concerned for the purposes of credit transfer, using the reference levels established by EQF;
- identify other actors and competent institutions that may be involved in the process concerned and their functions.

For applying ECVET to learning outcomes achieved in a non-formal and informal learning context or outside the framework of an MoU, the competent institution which is

empowered to award qualifications or units or to give credit should establish procedures and mechanisms for the identification, validation and recognition of these learning outcomes through the award of the corresponding units and the associated ECVET points.

### ***C. Learning agreement and personal transcript***

For applying credit transfer involving two partners and a specific mobile learner, a learning agreement is concluded by the two competent institutions involved in the training and validation process and the learner, in the framework of an MoU. It should:

- distinguish between competent “home” and “hosting” institutions<sup>2</sup>;
- specify the particular conditions for a period of mobility, such as the identity of the learner, the duration of the mobility period, learning outcomes expected to be achieved and the associated ECVET points.

The learning agreement should lay down that, if the learner has achieved the expected learning outcomes and these have been positively assessed by the “hosting” institution, the “home” institution should validate and recognise them as part of the requirements for a qualification, according to the rules and procedures established by the competent institution.

Transfer between partners can apply to learning outcomes achieved in formal and, where appropriate, non-formal and informal contexts.

### ***D. ECVET points***

ECVET points provide complementary information about qualifications and units in numerical form. They have no value independent of the acquired learning outcomes for the particular qualification to which they refer and they reflect the achievement and accumulation of units. To enable a common approach for the use of ECVET points, a convention is used according to which 60 points are allocated to the learning outcomes expected to be achieved in a year of formal full time VET.

In ECVET the allocation of points usually has two phases: ECVET points are allocated first to a qualification as a whole and then to its units.

For a given qualification, one formal learning context is taken as a reference and, on the basis of the convention (60 points for one year) the total number of points is assigned for that qualification. From this total, ECVET points are then allocated to each unit according to their relative weight within the qualification.

For qualifications which do not have a formal learning pathway reference, ECVET credit points can be allocated through estimation by comparison with another qualification which has a formal reference context. To establish the comparability of the qualifications, the competent institution should use as a basis for comparing equivalent EQF level or, possibly, NQF level, or the similarity of the learning outcomes in a closely related professional field.

The relative weight of a unit of learning outcomes, with regard to the qualification, should be established according to the following criteria or to a combination thereof:

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<sup>2</sup> The “home” institution is the institution which will validate and recognise learning outcomes achieved by the learner. The “hosting” institution is the one that delivers training for the learning outcomes concerned and assesses the achieved learning outcomes.



- the relative importance of the learning outcomes which constitute the unit for labour market participation, for progression to other qualification levels or for social integration;
- the complexity, scope and volume of learning outcomes in the unit;
- the effort necessary for a learner to acquire the knowledge, skills and competence required for the unit.

The relative weight of any given unit common to several qualifications, as expressed in ECVET points, may vary from one of these qualifications to another.

Allocations of ECVET points are normally part of the design of qualifications and units.

The successful achievement of a qualification or of a unit triggers the award of the associated ECVET points, independently of the actual time required to achieve them.

Any qualification acquired through non-formal or informal learning for which a formal learning pathway reference can be identified carries the same ECVET points as the one it is compared with, since the same learning outcomes are being achieved. The same refers for the corresponding units.

#### **1.4. Actions at European level for implementation of ECVET Recommendation**

##### *1.4.1. European ECVET users' group and a European ECVET network*

In order to support ECVET implementation at national level the European Commission set up a European ECVET users' group and a European ECVET network. The European ECVET network is a conglomerate of Member States, European social partners and VET providers all working to promote and support ECVET. The network is designed to support all stakeholders in vocational education and training for the design, steering as well as the technical, pedagogical and organisational aspects for implementing ECVET.

As a result of the work of the European ECVET users' group practical "ECVET User's Guide" was developed and published. It is structured in three parts:

- Part 1: "Questions & Answers about ECVET" (April 2011).
- Part 2: "Using ECVET for Geographical Mobility" (August 2011/October 2012)
- Part 3: "Using ECVET to Support Lifelong Learning" (November 2011)

The "ECVET User's Guide" is available at: <http://www.ecvet-team.eu/en/content/ecvet-users-guide>

##### *1.4.2. Pilot projects*

The Council and the European Parliament have placed a strong emphasis on the necessity to experiment and test ECVET, through, among others initiatives, the establishment of pilot projects.

In 2008, the European Commission issued a Call for proposal to finance international partnerships under the Lifelong Learning Programme whose aim was to test the implementation of the ECVET process in the context of learner's mobility. As a result, eleven pilot projects were selected. The lessons learned from these projects have served to understand better the challenges and difficulties that full-scale ECVET implementation faces. They have also contributed significantly to 'spread the word' and disseminate possible ways of working. National efforts to promote and disseminate ECVET principles have continued.

In 2010, the European Commission issued a call for proposal to finance a new generation of pilot projects. This time, the aim was to support national projects to test and develop the credit system for vocational education and training. As a result, eight projects were selected.

Whereas the first 11 pilot projects tested ECVET in the context of the geographical mobility of learners, a clear focus on national implementation is emphasised for the 2<sup>nd</sup> generation of ECVET pilot projects. Thus, the latter projects address mobility issues in a much broader sense than the previous pilot projects. ECVET is utilised as a tool for a wide range of aspects of transfer and accumulation of learning outcomes in the lifelong learning context, such as:

- Permeability between different VET sub-systems and learning pathways inside a country;
- Mobility of workers between different regions in a country;
- Mobility of workers across Europe.

Information about all nineteen ECVET pilot projects is available at <http://www.ecvet-projects.eu/Projects/Default.aspx>

#### *1.4.3. Support by the European Centre for the Development of Vocational Training (Cedefop)*

In cooperation with the European Commission, Cedefop provides technical and analytical support for the implementation of the ECVET Recommendation at the EU, national and sectoral levels. It monitors, analyses and reports annually the progress made in establishing ECVET at national, regional and project levels and points to the key challenges countries are facing. The publication "Monitoring ECVET implementation strategies in Europe" (2013) focuses on the necessary conditions Member States should create for its implementation. The report shows that Member States are progressing and are increasingly committed to ECVET implementation, although Europe is still far from a fully operational credit system in VET and developments are heterogeneous. It is necessary to mainstream efforts and work on synergies with other European tools, especially the national qualifications frameworks and the referencing to the European qualifications framework, which also contributes to creating those necessary conditions.

#### *1.4.4. ECVET Magazine*

Since 2010, the ECVET Bulletin (published by the team monitoring the ECVET pilot projects) and the ECVET Magazine (published by the ECVET Team coordinating the ECVET Network) has been merged into a single publication: the ECVET Magazine.

The ECVET Magazine is published five times per year - three issues are more specifically dedicated to the work of the ECVET pilot projects and two issues inform about the activities of the ECVET network. The issues of ECVET magazine are available at <http://www.ecvet-projects.eu/Bulletins/Default.aspx>

### **1.5. Summary related to structuring qualifications in units of learning outcomes<sup>3</sup>**

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<sup>3</sup> Description of units of learning outcomes – Examples from the 2nd generation of ECVET pilot projects, November 2012

- *The use of occupational activities or work processes/tasks as the basis for the design /composition of units have a number of advantages and makes reaching an agreement among partners on credit transfer easier. If full qualifications are described, it should be ensured that together all of the units cover the entire qualification.*

From the experience of the 1st generation ECVET pilot projects it is clear that discussing the occupational activities, work processes/tasks for which the qualification prepares, rather than the qualification standard or the curriculum, makes it easier to identify commonalities among qualification systems from different countries.

When a unit is linked to an activity/set of tasks, its content is transparent and easily understood by a variety of stakeholders – such as employers, but also learners.

The use of occupational activities, work processes/tasks as a basis for units also makes it easier to agree/define the assessment criteria.

- *The size and content of a unit needs to be reflected in the defined purpose of the envisaged credit transfer; however some general principles need to be observed.*

Units of learning outcomes should be designed in such a way that they can be completed (assessed) as independently as possible from other units of learning outcomes.

In general, all learning outcomes to be assessed need to be described. In order to avoid an overload of information (i.e. very long lists of learning outcomes), the focus of the learning outcomes description should be on 'essential' aspects instead of on 'trivial' ones. The respective decision always needs to be made with the consideration of the specific qualification and the credit transfer envisaged. Therefore, differences can be observed, for instance, regarding the size of units or the level of details provided in the descriptions.

- *The units of learning outcomes should express learning outcomes related to the specific profession/ vocation as well as transversal or key competences.*

Units of learning outcomes should include all necessary learning outcomes, i.e. they should describe the intended professional competences as well as the key competences and necessary social and personal competences in this context. However, it is up to the partners to decide on whether transversal or key competences should be grouped into separate units or integrated into the descriptions of learning outcomes related to the specific profession/vocation.

- *The description of learning outcomes should reflect the following elements: knowledge, skills and competence. This does not mean that the format of describing knowledge separately from skills and competence needs to be adopted.*

The structure of the learning outcomes descriptions is determined by the partnership; some ECVET projects adopt the approach of differentiating between knowledge, skills and competence (but not necessarily in this sequence) and some use other categories based on national level rules, while others do not make this difference explicit and use 'holistic' descriptions.

Those in favour of the first approach highlight that such differentiation creates further clarity and transparency on the content of the unit and enables a better comparison.

Those in favour of the second approach say that describing knowledge, skills and competence separately leads to overlaps and redundancies in the descriptions. They also

note that this distinction is somewhat artificial (since competence is the encompassing term) and that what is necessary, from the point of view of assessment, is the combination of all elements.

Furthermore, the categories of knowledge, skills and competence are not the only ones that could be used for structuring learning outcomes descriptions. In some national contexts other or additional categories are used.

### **1.6. Summary related to ECVET points**

The recent review of Cedefop on the progress achieved in ECVET Recommendation implementation shows that, the issues related to allocation of credit points are on the agenda of many national initiatives and working groups but it is considered that at this stage of ECVET development it is not a priority of great importance. The theme of ECVET is in close connection with validation, since the achievements in learning are validated as parts of credits. Credit systems and validation support each other in the frames of the national education and training systems. Introduction of units and assessment based on units supports acquiring part of a qualification through validation of non-formal and informal learning outcomes.

The review carried out at European level allows summarizing the situations in which ECVET could be used in support of lifelong learning:

- *Progressively accumulating learning:* Accumulating credit progressively over time with possible disruptions in the learning path, but preparing for a single qualification (no change of pathway);
- *Changing the pathway and qualification within the same qualification system:* Transferring and accumulating credit within the same qualification system and at the same level, from one qualification and pathway to another (for example, from a qualification in one economic sector to a qualification in a related economic sector);
- *Changing the pathway and qualification from one system to another:* Transferring and accumulating credit at the same level from one education or qualification sector to another (for example, from a more narrow continuing VET qualification achieved through a public employment training programme towards a broader initial VET qualification that gives the person more opportunities);
- *Formalising achieved learning outcomes:* Validating and recognising learning outcomes achieved in non-formal or informal learning towards a qualification in a formal qualifications system;
- *Progressing or upgrading a qualification:* Transferring and accumulating credit from a qualification at one level towards a qualification at another level (for example, from a post-secondary VET qualification towards a qualification in the same field in higher education).

## **2. Allocation of ECVET points to TTM qualification in the frames of ETM project**

## 2.1. Starting positions

- The project partners share the position that **ECVET points make sense, when they are allocated to all units of learning outcomes in the frames of a qualification.** Credit points are not subject to accumulation and transfer. Writing them down in the personal transcript gives information about the scope of the learning outcomes achieved in the frames of qualification.
- The successful acquisition of the whole qualification or part of it (separate units of learning outcomes) leads to awarding of the respective ECVET points, no matter of the time taken for their achievement or the training path used– formal training, non-formal training, informal learning.
- Credit points could be used by trainees, persons practicing a qualification without official document for vocational qualification, institutions for vocational education and training, employers and others, in order to identify the particular individually acquired qualification.
- ECVET points support the trainee to acquire given qualification through mastering the units of learning outcomes, which constitute it, in different countries and in different learning context (formal, non-formal, informal), keeping the national legislation and in compliance with the arrangements and regulations implemented in relation with validation and recognition of learning outcomes.
- In order to ensure common reference basis, when allocating credit points to the whole qualification and to their distribution among the units of learning outcomes, in the frames of ETM project, the partners agree that **5 ECVET points are equivalent to a semester course of a bachelor degree (assumption 1 ECVET equal to one ECTS credit). This method has been applied in another previous project COMINTER (DG Education and Culture, 2011) and is a common practice for courses in EQF level 6.**
- Project partners implement common unified approach to defining the total number of ECVET points to TTM qualification, as well as common criteria for their allocation to the units of learning outcomes which compose them, complying with the existing in the respective country normative and organizational frame in the field of vocational education and training.

## 2.2. Model for allocation of ECVET points for qualifications and units of learning outcomes which comprise them

### 2.2.1. Main characteristics of the model

The aim of the model is to support creation of an effective system for allocation of ECVET points for the needs of recognition, accumulation and transfer of learning outcomes in the sphere of vocational education and training. In more particular plan its purpose is to assist the national teams in the frames of ETM project partnership in implementation of unified criteria when defining the total number of ECVET points for the TTM qualification, and its distribution among the learning outcomes which constitute them, considering the national context. It is about identification of the main activities and the requirements to

their execution in compliance with common European policies, principles and positive experience in the field of ECVET. (Fig. 1).

The model ensures mutual relation and consecutiveness of actions according the following basic principles and requirements:

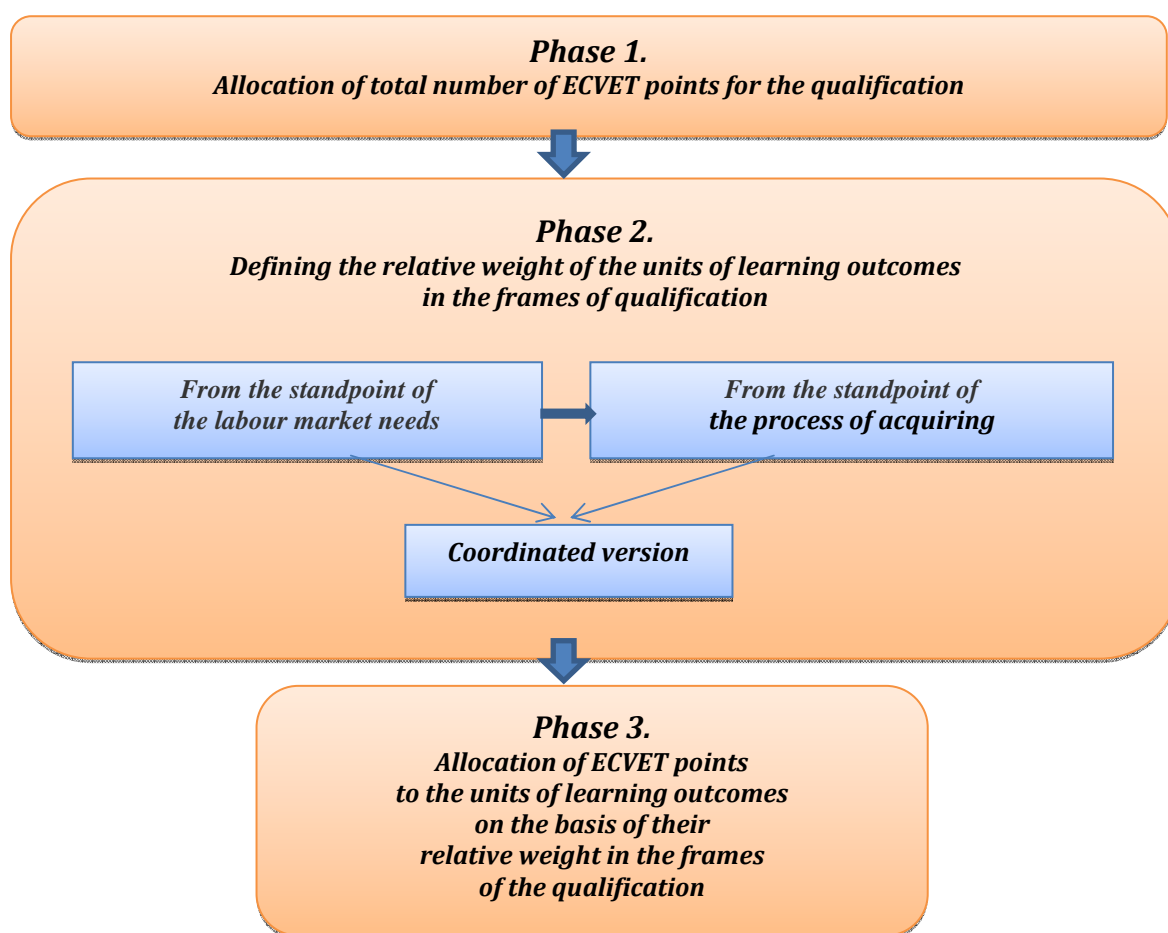
- *Awareness*

The opportunities for recognition, accumulation and transfer of learning outcomes are promoted actively and systematically among general public and potential users.

- *Voluntariness*

The procedure for recognition, accumulation and transfer of learning outcomes is implemented when the citizens declare their intention based on independent and informed decision.

**Fig. 1. General scheme of activities related to allocation of ECVET points to TTM qualification**



- *Equal access*

The system for recognition, accumulation and transfer of learning outcomes guarantees free access and respect to the rights and achievements of all citizens, irrespectively of their gender, age, social status or ethnicity.

- *Reliability and trust*

Identification, assessment and recognition of learning outcomes is based on transparent requirements about the knowledge, skills and competences, which are necessary for certification of vocational qualification in particular profession or part of a profession (separate units of learning outcomes), defined in corresponding national standards.

- *Credibility and legitimacy*

The procedure for recognition, accumulation and transfer of learning outcomes is in compliance with the current national normative regulations in the field of vocational education and training, the rights and obligations of the participants in the process.

- *Transparency and coherence of actions*

The results of each stage of recognition, accumulation and transfer of learning outcomes are documented according to requirements, which ensure enough arguments and reliable information to all participants in the process.

- *Stimulation of individual learning activity*

If necessary the procedure directs to involvement in additional training aimed at development of the acquired knowledge, skills and competences in compliance with the requirements for certification of qualification in profession or a part of profession.

- *Transferability of the achieved learning outcomes*

The procedure allows the results of assessment and recognition of knowledge, skills and competences to be used of involvement of citizens in further vocational education and training.

## **2.2.2. Description of Phase 1**

### **Main aim**

To define the total number of ECVET points for the TTM qualification.

### **Content**

Selection of reference programme for acquiring the qualification in the formal system for education and training:

- according to the national legislation and the specifics of the system for vocational education and training;
- on the basis of reliable data with respect to the recognition and the prestige of the training programmes at the national labour market.

### **Approach**

The total number of ECVET points is defined on the basis of the duration of a reference training programmes in the formal education and training system. Considering that the TTM qualification is positioned at EQF level 6, selection is among training programmes provided by universities and to them ECTS credits are defined. ECTS credits are transformed based on the assumption 1 ECVET equal to one ECTS credit and to 1 semester course at bachelor degree 5 ECVET points are assigned.

The duration of learning for acquiring the qualification in the formal system is taken as a basis in this case, since it is a source of comparatively objective information about the workload for achievement of the learning outcomes in terms of time for learning.

When the total number of points is defined, it is taken into consideration that the competences in the qualification are acquired in formal training, as well as in non-formal training and through informal learning, in shorter or longer programmes. Besides, the

separate trainee might spend more or less time for achievement of the respective results. In this sense the total number of credit points refers to all forms of acquiring the qualification – training in the formal system, non-formal training and informal learning.

***In the cases, when for the qualification there is not a formal programme*** for acquiring the defined learning outcomes, ECVET points might be assigned on the basis of comparison with similar qualification, for which training is provided in the formal context.

### **2.2.3. Description of Phase 2**

#### **Main aim**

To estimate the relative weight of the separate learning outcomes, which constitute each qualification, as an objective basis for distribution of the total number of credit points among them.

#### **Content**

The estimation of the relative weight of the separate units of learning outcomes, which constitute qualification, is carried out from the standpoint of:

- the requirements and their “value” for successful labour market realization;
- complexity of methods, procedures and the time of learning necessary for their achievement.

#### **Approach**

In order to achieve the necessary objectiveness and reliability, the assessment of the relative weight of the units of learning outcomes is carried out by focus-groups, in which participate:

- employers, representatives of branch and professional organizations in the respective field, persons practicing the corresponding profession and representation of companies with different size in the branch is ensured, as well as of positions which offer opportunities for realization of those holding the respective qualification;
- representatives of education and training institutions, providing training on the selected reference programmes for acquiring of the qualifications.

The requirement is to work for achievement of consensus between the participants in the focus-groups which assess the units of learning outcomes from different perspectives.

#### **Main activities and instruments**

##### ***A. Constitution of the focus-groups.***

##### ***B. Introductory presentation and instruction of the participants in the groups.***

##### ***C. Assessment of the relative weight of the units of learning outcomes on the basis of assessment of their importance for successful labour market realization.***

In order to work out objective and unified criteria for assessment in the group:

- Participants assess the learning outcomes in each unit **with respect of frequency of implementation and degree of importance for carrying out**



**the vocational activity as a whole, filling in individually *Table 1*.** The assessment is based on the described knowledge, skills and competences for each learning outcome.

**Table 1. Assessment of learning outcomes**

Unit No. ....						
Learning outcomes	Frequency of implementation			Degree of importance		
	seldom	frequently	every day	low	medium	high
Outcome No. 1						
Outcome No. 2						
.....						

- The results from the individual assessment are discussed in the group from different points of view, *for example*:
    - ✓ The description of qualification, structured in units of learning outcomes, provides generalized picture of the knowledge, skills and competences, necessary for the quality fulfilment of the work activities in the frames of qualification, performed by persons, employed in different enterprises and at different job positions.
    - ✓ The assessment of learning outcomes should be in compliance with the tendencies in the branch – new technologies, materials, techniques.
    - ✓ Evaluation of learning outcomes should be based on the main (typical) work activities, tasks, obligations and requirements to the quality of performance;
    - ✓ Way of fulfilment - methods and procedures implemented; instructions followed – detailed or general ones; repetition of activities; the most difficult tasks (parts of tasks), which should be fulfilled etc.
    - ✓ What are the tools of work - machines; specialized software and programme products; standards; work documentation; legislative documents etc.
    - ✓ What is the result - products at the end of each work activity;
    - ✓ Working conditions - specifics of the working time and the working environment; work place;
    - ✓ Control of performance – who assigns the tasks, to whom the results are reported, who controls the work, how, at what period, level of making decisions;;
    - ✓ Responsibilities in fulfillment of work activities - responsibilities related to the quality of work; responsibilities for working tools; responsibilities for the work and security of other people.
    - ✓ What personal qualities are necessary for practicing the profession
- On the basis of agreed common criteria for assessment, the participants in the group fill in **Table 2.**, estimating the degree of importance of the separate units of learning outcomes for the successful work performance in the frames of qualification. The importance is expressed in percentages, reflecting the relative weight of each unit in the frames of the whole qualification. The weight of each unit is defined as a percentage of the whole qualification on basis 100%.

The average value of the individual assessments represents the percentage distribution of the units of learning outcomes in the qualification.

**Table 2. The relative weight of the units of learning outcomes**

<b>Qualification .....</b>	
<b>EQF level ...</b>	
<b>Total number ECVET points .....</b>	
<b>Units of learning outcomes (Units of competence)</b>	<b>Relative weight in the frames of the qualification (in %)</b>
No.1 .....	
No. 2 .....	
.....	
	(100%)

***D. Assessment of the relative weight of the units of learning outcomes from the standpoint of the process of acquiring of the necessary knowledge, skills and competences.***

The assessment aims at precision of the percentage distribution worked out in compliance with:

- training objectives for each unit in the context of the whole qualification – scope and volume of the general and specific knowledge, skills and competences;
- complexity of methods, procedures and notional learning time for achievement of the expected results for each unit.

It is based on the selected reference programme for education and training and the duration of learning activities in the frames of theoretical and practical training, defined in it. Indicators like the following are used: technical, technological, scientific and general knowledge, which should be acquired, so as to realize the expected knowledge, skills and competences; number of training procedures, which should be fulfilled; methods of training and self-training, which should be implemented; complexity of combinations of procedures and methods; variety of the used material and documentary tools etc. In the analysis of the learning outcomes, developed during the project "*Taxonomy of Bloom for definition of the learning outcomes*" can be used as a supportive tool (**Table 3**).

**Table 3. Taxonomy of Bloom for definition of the learning outcomes (adapted version)**

<b>Category</b>	<b>Key verbs</b>
<b><i>Knowledge:</i></b> Totality of information/ data/ facts in one field, which given person has mastered; competence, achieved as	Defines, describes, identifies, lists, labels, matches, names, outlines, recalls, recognizes,

a result of cognitive activity, education/ training, experiencing.	reproduces, selects, states
<b>Understanding:</b> Retrieving the correct meaning of ambiguous information; independent comprehending the meaning of something (instructions, tasks, explanations, defined in a different from the already known way) on the basis of knowledge and experience.	Comprehends, converts, defends, distinguishes, estimates, explains, extends, generalizes, gives an example, interprets, paraphrases, predicts, rewrites, summarizes, translates
<b>Applying:</b> Use what was learnt (knowledge, skills and competences) in a new situation – exercise, at the work place etc.	Applies, changes, computes, constructs, demonstrates, discovers, manipulates, modifies, operates, predicts, prepares, produces, relates, shows, solves, uses
<b>Analysis:</b> Operation of abstract or practical separation of a whole thing (objects, qualities or relations between objects and phenomena) in composing parts in the process of knowing and gaining experience; method of research through which the subject of research is parted in order to investigate and understand it better. As an addition to synthesis, the method of analysis allows to get information about the structure of the subject or object of investigation.	Analyzes, breaks down, compares, contrasts, diagrams, differentiates, discriminates, distinguishes, identifies, illustrates, infers, outlines, relates, selects, separates
<b>Synthesis:</b> Method of investigation which connects the separate elements in one whole and this way studies the essence of phenomena; builds a structure or pattern (product, report, research, production technology, action plan) from diverse elements with a new meaning or structure.	Categorizes, combines, compiles, composes, creates, devises, designs, explains, generates, modifies, organizes, plans, rearranges, reconstructs, relates, reorganizes, revises, rewrites, summarizes, tells, writes
<b>Evaluation:</b> Process of systematic characterization, getting information and feedback with respect to different aspects of qualities and impact of an object, programme, products, machines, technologies in relation with the expected results; measuring the degree of achievement of the expected results.	Appraises, compares, concludes, contrasts, criticizes, critiques, defends, describes, rejects, evaluates, explains, interprets, justifies, relates, summarizes, supports
<b>Emotional and behavioural professional and personal qualities</b> – they show the development of feelings, emotions, behaviour in a specific situation	

<p><b>Perception of Phenomena:</b> Receiving, getting impression, perception, information; understanding and mastering the whole and its details.</p>	<p>Asks, looks for, chooses, describes, follows, gives, holds, identifies, locates, names, selects, sits, erects, replies, uses, gives opinion, directs own attention, opposes</p>	
<p><b>Responding to Phenomena:</b> Active participation; adequate response. Defining priorities; resolution of contradictions, incompletion and conflicts.</p>	<p>Answers, reacts, assists, aids, complies, conforms, discusses, greets, helps, labels, performs, practices, presents, reads, recites, reports, selects, tells, writes</p>	
<p><b>Demonstration of values:</b> Related to particular object, phenomena, behaviour.</p>	<p>Completes, demonstrates, differentiates, explains, follows, forms, initiates, invites, joins, justifies, attracts, proposes, excuses, organizes, reads, reports, selects, shares, studies, works, takes part in...</p>	
<p><b>Built up system of values which controls behaviour:</b> Demonstrates definite qualities of character, certainty and consistency in actions, predictable reactions, able to adapt in personal, social, emotional level.</p>	<p>Behaves ..., does, reacts, influences, differentiates, influences, listens carefully, changes, presents, has the habit of ..., sets objectives, expresses softly (roughly), puts under doubt, rethinks (changes attitude), relates ..., contributes, finds decisions, confirms</p>	
<p><b>Exemplary list of verbs describing work with people, work with information or work with objects</b></p>		
<p><b>Work with people</b></p>	<p><b>Work with information</b></p>	<p><b>Work with objects</b></p>
<p>advises reports (gives feedback) communicates counsels trains assists follows interested in imitates leads discussions influences</p>	<p>accounts analyzes balances budgets collects compares composes calculates creates designs evaluates</p>	<p>Manifests versatility, liveliness, quickness, dexterity, skilfulness. Manifests accuracy, preciseness, assembles. fits measures calibrates constructs cooks, makes works out</p>

initiates undertakes instructs interviews manages gives directions motivates negotiates convinces presents sells is responsible for supervises controls teaches trains admonishes	makes forecasts, prognosis solves problems investigates processes information examines studies sorts synthesizes systematizes	raises hammers works with ... manipulates with... manages transports (moves, lifts) packs checks, inspects, revises maintains pushes manoeuvres produces forms (moulds, shapes, sculptures) operates prepares repairs adjusts
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**In the cases when the groups have different positions** – for one and the same unit the group of “professionals” estimates percentage share which is not accepted by the “trainers”, consultations are carried out additionally, in order to achieve consensus. As a result of consultations the final relative weight of the units in the qualification is defined.

#### **2.2.4. Description of Phase 3**

##### **Main aim**

Allocation of ECVET points to the units of learning outcomes in the frames of the qualification.

##### **Content**

The total number of points for the qualification is distributed between the separate units of learning outcomes, which constitute it, as the points for each unit is defined on the basis of its relative weight in the qualification.

##### **Approach**

The number of credit points for the separate units in the qualification is calculated on the basis of their percentage share, which has already been estimated (**Table 4**).

It is recommended to round up the number of points to a whole number.

*In the frames of project partnership the partners agree on the possible deviations in the transcription of points for the separate units at national level.*

**Table 4. Allocation of ECVET points to the units of learning outcomes**

<b>Qualification .....</b>		
<b>EQF level .....</b>		
<b>Total number of ECVET points .....</b>		
<b>Units of learning outcomes</b>	<b>Relative weight in the frames of the qualification (in %)</b>	<b>Number of ECVET points</b>
No. 1 .....		
No. 2 .....		
.....		
	<i>(100%)</i>	<i>(Total number of ECVET points)</i>

As a result of implementation of the ETM project, the relative weight of the units of learning outcomes comprising TTM qualification and the respective number ECVET points was defined, as follows:

<b>Qualification Technology Transfer Manager</b>		
<b>EQF level: 6 (Bachelor)</b>		
<b>Total number of ECVET points: 5</b>		
<b>Units of learning outcomes</b>	<b>Relative weight in the frames of the qualification (in %)</b>	<b>Number of ECVET points</b>
1. IPR AND LICENSING	<b>20</b>	<b>1</b>
2. INFORMATION GATHERING	<b>10</b>	<b>0,5</b>
3. TECHNOLOGY COMMERCIALIZATION	<b>20</b>	<b>1</b>
4. NEW BUSINESS DEVELOPMENT	<b>20</b>	<b>1</b>
5. PROJECT MANAGEMENT	<b>15</b>	<b>0,75</b>
6. COMMUNICATION AND NETWORKING	<b>10</b>	<b>0,5</b>
7. NEGOTIATION	<b>5</b>	<b>0,25</b>

### 3. Assigning of ECVET points to candidates for validation of TTM qualification

#### 3.1. After Expertise Check-up

After completing the Expertise check-up following the agreed in the partnership methodology, the assessor (or assessors) fills in the table in the Individual Report of the candidate and the part related to comments and arguments for his/her/their assessment.

If in the table completed by the assessor, a given unit is assessed with "Yes" in all items, this means that the assessor recognizes the knowledge and practical skills, the candidate claims to have, based on results of self-evaluation, analysis of CV provided, Phone interview, Post interview, Meetings with the candidate, E-mail communication. So, the number of the defined for the respective unit ECVET points are assigned to the candidate and filled in the table in the in the table for ECVET points in the Individual Report for the expertise check-up of the candidate.

For example, candidate receives yes for all items included in unit 5, 6, 7. The table for ECVET points for this candidate will look as follows:

<b>ECVET points assigned to</b>	
<b>Name: Candidate X</b>	
<b>Qualification: TTM</b>	
<b>NQF level: 6 (Bachelor)</b>	<b>EQF level: 6</b>
<b>Total number of ECVET points: 5</b>	
<b>Units of learning outcomes</b>	<b>Number of ECVET points</b>
Unit 1. IPR AND LICENSING	...
Unit 2. INFORMATION GATHERING	...
Unit 3. TECHNOLOGY COMMERCIALIZATION	...
Unit 4. NEW BUSINESS DEVELOPMENT	...
Unit 5. PROJECT MANAGEMENT	0,75
Unit 6. COMMUNICATION AND NETWORKING	0,5
Unit 7. NEGOTIATION	0,25

#### 3.2. After the training

If as a result of the Expertise Check-up to a candidate is recommended to pass some or all units of the TTM training course, ECVET points for the respective unit/s are assigned upon successful finishing of the training and filled in his individual table for ECVET points.

So, our candidate X will receive the ECVET points for units 1, 2, 3 and 4 after passing the quizzes included for them with a score 70% and higher.  
Upon acquiring all units of learning outcomes either through validation or training, the trainee receives a certificate for TTM qualification.