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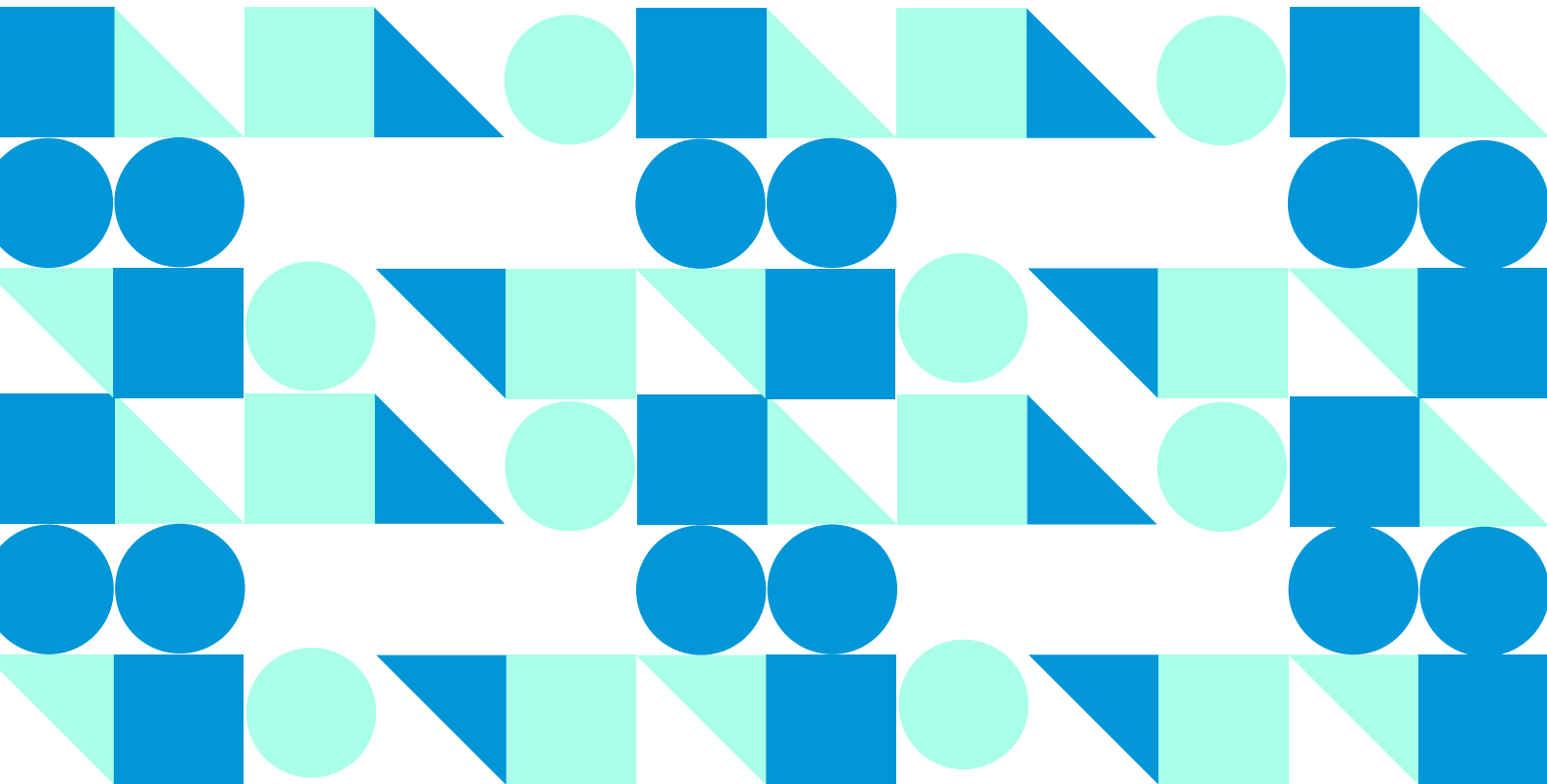
European qualifications framework

Initial vocational education and training: focus on qualifications at levels 3 and 4



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European qualifications framework

Initial vocational education and training: focus on qualifications at levels 3 and 4

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The **European Centre for the Development of Vocational Training** (Cedefop) is the European Union's reference centre for vocational education and training, skills and qualifications. We provide information, research, analyses and evidence on vocational education and training, skills and qualifications for policy-making in the EU Member States.

Cedefop was originally established in 1975 by Council Regulation (EEC) No 337/75. This decision was repealed in 2019 by Regulation (EU) 2019/128 establishing Cedefop as a Union Agency with a renewed mandate.

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Foreword

In the increasingly globalised and connected world, jobs and learning opportunities are accessible across borders; employers can recruit staff from abroad and contract work out to people in other countries. As people move more frequently for work and study than in the past, their qualifications and skills need to be properly understood to be able to match, use and develop them appropriately.

In Europe, qualifications acquired through vocational education and training (VET) are very diverse, as they are shaped by countries' specific socioeconomic contexts, labour market characteristics and traditions. This diversity may hamper mobility across national and institutional borders. Hence, a European qualifications framework (EQF) for lifelong learning was developed with Cedefop's support to act as a translation device between countries' different qualification systems and frameworks. Focusing on the intended outcomes of learning has made it possible to assign qualifications to the different levels of national qualifications frameworks (NQFs) and the EQF. EQF and NQF levels, with their descriptions of what qualification holders are expected to know, understand and are able to do, provide important orientation. This has helped to understand similarities and differences in vocational qualifications across countries.

However, as national VET qualifications are underpinned by different concepts, and their use by people on the labour market and in further learning varies, this information is not sufficient. This study goes a step further to explore initial VET qualifications linked to EQF levels 3 and 4: these are common qualification levels that young people acquire either through school-based VET or apprenticeships. It examines the weight given to occupational, general and transversal competences across these levels and countries, and what different jobs or tasks graduates can carry out with them. It also looks at how they help people progress in their learning paths and how countries decide whether a qualification is assigned to a specific level. The study reveals important progress in describing initial VET qualifications in terms of learning outcomes but also presents a number of challenges when comparing vocational qualifications.

Together with other studies that look at different tools and methods that can help make VET qualifications even easier to understand and compare, Cedefop supports the EU's commitment to improved skills matching and creating a European education area. Ultimately, this will be beneficial to citizens, employers and education providers.

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Executive summary

This study examines the initial vocational education and training (IVET) qualifications linked in the national context to the European qualifications framework (EQF) levels 3 and 4 ([1]). EQF is a common reference framework of eight levels of learning outcomes that serve as a translation grid between national qualifications systems. Its main objective is to improve transparency and comparability of qualifications within and across countries participating in EQF implementation. This study has an explorative character and considers what kind of IVET qualifications are linked to EQF levels 3 and 4 (via national qualifications frameworks); what their purposes and currencies are; how they are levelled; and more generally how EQF levels 3 and 4 are used in the countries included in the study.

Desk research and interviews with 125 national stakeholders and experts were collated to produce 26 country reports to paint a picture of IVET qualifications linked via NQFs to EQF levels 3 and 4. Their purposes and currencies were researched, including how they help people progress to further learning and the labour market, along with overall characteristics and profiles of leaning outcomes. Eight case studies ([2]) were carried out to deepen the understanding of qualifications, their learning outcomes and the levelling decisions; the cases involved car mechanic qualifications linked to EQF levels 3 and 4. The methods included focus groups (semi-structured, in-depth group interviews) and additional interviews with national stakeholders. The study's final phase included a workshop with experts involved in the case studies. The workshop provided further insights into the similarities of, and the differences between, qualifications at these levels and levelling procedures and decisions.

EQF levels 3 and 4 at the crossroads of general education and VET

Most countries included in the study have their upper secondary school-leaving qualifications from general and vocational education linked to EQF level 4,

([1]) The study maps and analyses IVET qualifications according to the level of learning outcomes in the 26 countries that linked their national qualifications levels to the EQF by mid-June 2016: Austria, Belgium (Flemish and French Community), Bulgaria, Croatia, Czechia, Denmark, Estonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Slovenia, Sweden, Switzerland and the United Kingdom (England and Northern Ireland, Scotland and Wales).

([2]) The case studies come from Denmark, Ireland, Italy, Netherlands, Poland, Portugal, Slovenia and Switzerland.

particularly those that provide access to higher education. Many countries have initial VET qualifications with a different profile from EQF level 4 qualifications also linked to EQF level 3.

Around a third of the countries have general education qualifications linked to EQF level 3, mostly those from lower secondary education. In some, vocational/professional qualifications awarded outside formal education and training are placed at EQF levels 3 and 4. Austria and Sweden currently do not have any qualifications linked to EQF level 3. This level is empty.

All countries have initial VET qualifications at EQF level 4

The heart of IVET is at EQF level 4. All countries included in the study have at least one type of IVET qualification ([3]) at this level.

In most countries, IVET qualifications share EQF level 4 with upper secondary general education certificates that provide higher education access. In many countries, VET programmes at this level – often referred to as 'technical' − include a considerable share of vocational theory and general subjects and lead to double qualifications: they allow labour market entry as well as progression to higher education. In several countries, these programmes have become the most popular VET option. As also revealed by other Cedefop research, enrolment in these programmes is stable or increasing; in contrast, participation in the more practically oriented programmes at EQF level 3 has decreased in last two decades, as seen in some Eastern European countries.

There are also common tendencies related to the currency of the EQF level 4 IVET qualifications: they generally lead to skilled-worker status and two thirds of the qualification types analysed provide direct or conditional higher education access. Actual progression from IVET to higher education differs across countries and programmes. The anecdotal statistics on further learning support the finding that the vocational route from more practically oriented VET programmes into higher education is not well travelled, compared to those from more theoretically oriented VET programmes. However, the most important purpose of EQF level 4

([3]) A group of qualifications within a country that share specific characteristics (for example, legal regulations and regulatory body, purpose, educational objectives, level, duration of related programme, access requirements or level of labour market entry), such as the upper secondary vocational education certificate (EQF level 3) and upper secondary technical education school-leaving certificate (EQF level 4) in Belgium (Flemish Community) or Federal VET certificate (EQF level 3) and Federal VET diploma (EQF level 4) in Switzerland. Within a qualification type, there can be many different individual qualifications in different fields (such as engineering, social and healthcare, business).

qualifications is to provide access to the labour market and – depending on the country context – having a well-established social status.

EQF level 3 qualifications: diverse picture and value

Apart from Austria, Portugal and Sweden, countries have IVET qualifications assigned to EQF level 3. They often have a distinctive vocational profile compared to those at EQF level 4. Initial VET programmes leading to EQF level 3 are shorter, more practice-oriented and lead to direct labour market entry.

EQF level 3 has less clear uses across the countries than EQF level 4. Some countries use it for low-achieving target groups or for those who need to develop specific competences required in working life. Here EQF level 3 has a social inclusion function that provides opportunities, according to personal abilities and competences, for further education or access to the labour market.

In other countries, EQF level 3 qualifications often lead to different labour market positions compared to EQF level 4.

EQF level 3 largely includes IVET qualifications leading to semi-skilled and skilled worker status. Depending on the country and the sector, however, there are cases, where the holders of these qualifications have less clear positions on the labour market.

EQF level 3 qualifications offer opportunities to progress to further learning, albeit not to higher education, without additional training or experience. While VET at EQF level 3 often serves as social safety net, its contribution to social mobility seems limited. Anecdotal evidence suggests that learners with disadvantaged backgrounds tend to be overrepresented in VET programmes leading to EQF level 3 qualifications. Graduates may also have low success rates in further learning, especially when they enter higher education. Still, despite (or perhaps because of) the social function in some countries, IVET programmes linked to EQF level 3 only make a limited contribution to social mobility and to solving social inequality. Some researchers have coined the phrase ‘trapped in a low skills/low productivity equilibrium’ (Fleckenstein and Lee, 2017, p. 109).

Complexity, autonomy, responsibility, independence and distribution of learning outcomes make the difference

IVET qualifications linked to EQF levels 3 and 4 have distinct profiles, market value and progression possibilities.

Most initial VET qualifications or groups of qualifications at EQF levels 3 and 4 have a strong focus on occupational learning outcomes, on average over 60%; for EQF level 3 alone it is even higher at 72%. General subjects take up, on average, 24% of the learning outcomes, specifically labelled transversal learning outcomes account for 12%. This comparatively low share, however, does not

indicate a general neglect of transversal skills. They are often included in the occupation-specific subjects or modules, as country examples reveal.

Compared to EQF level 3 qualifications, those linked to EQF level 4 have a higher share of general knowledge, underpinning theoretical knowledge and transversal learning outcomes. These features help gain access to further learning, particularly to higher education, and might be seen as a response to demands from the labour market. The case studies of car mechanic qualifications revealed that most differences between EQF levels 3 and 4 were in the requirements to master increasing complexity of tasks and to exercise autonomy and responsibility. Although important, this 'vertical dimension' of learning outcomes is sometimes not well elaborated in qualifications descriptions.

Learning outcomes increasingly used for describing IVET qualifications

IVET qualifications at EQF levels 3 and 4 are increasingly described in learning outcomes: this applies to the whole qualification and parts of it, as in modules or subjects in almost half of IVET qualification types analysed. The evidence suggests that, in most cases, learning outcomes are generated from occupational standards/profiles agreed with labour market stakeholders. Together with other sources and standards, these inform the development of educational standards and curricula.

The documents and instruments used to design an IVET qualification or national curriculum often include other information as well as learning outcomes descriptions: learning content and material; duration of learning and numbers of lessons related to a subject or module; learning site, teaching and learning process; assessment methods, access requirements and progression path. The learning-outcomes descriptions differ in length, level of detail, structure and inclusion of types of learning outcomes (occupational outcomes, transversal outcomes, general knowledge subjects). Learning outcomes described at different levels of abstraction and structured in different ways (grouped in relation to work processes/tasks, as subjects or according to the NQF level descriptors) provide a challenge for comparing qualifications.

The learning outcomes approach: central to understanding and comparing qualifications

Learning-outcomes-based EQF and NQFs have made it easier to compare different qualification types and individual qualifications. Including NQF descriptors in the guidelines for developing and revising qualifications could make it easier to assign them to appropriate qualification levels. The discussion and mutual learning that result from NQF classification (levelling results) also help to improve the understanding of different qualifications allocated to the same level. However,

because of different national approaches to learning outcomes, comparison remains challenging, especially when trying to compare directly the learning outcomes of qualifications to each other.

A qualification is more than the sum of learning outcomes; it is a social construct. It reflects the outcomes of social dialogue embedded in governmental and institutional structures. Depending on a country's labour market characteristics, qualifications may have different purposes and currencies. Similar concepts, such as skilled/semi-skilled worker status also differ. Hence, to understand and compare qualifications, it is not enough to consider the scope and types of learning outcomes they include; their purpose and currency/value on the labour market and for further learning, as well as the underpinning concepts, are equally relevant.

The social and contextual considerations that may influence the assignment of qualifications to NQF and EQF levels need to be made transparent to international stakeholders. To understand which methods and contextual considerations underpin the mapping of a qualification with the NQF descriptors is important to maintain and strengthen the trust in qualifications across countries that the frameworks help build. This is particularly important where groups of qualifications are assigned *en bloc* to an NQF/EQF level, as most countries did initially, when assigning qualifications from formal education and training.

Improved reference points for comparing VET qualifications are needed

This study used two reference points: European skills, competences, qualifications and occupations (ESCO) and world skills standards specifications (WSSS) to compare car mechanic qualifications; however, the reference points were not specifically developed for comparison of qualifications. This exercise revealed that mapping learning outcomes of car mechanic qualifications to these reference points can identify a common core of learning outcomes of qualifications across countries. However, these reference points do not indicate the importance of specific learning outcomes (they do not support weighting of outcomes within a qualification) or show differences between qualifications linked to different levels (because they do not sufficiently reflect the vertical dimension). Further work is needed to improve existing reference points or to develop new ones for comparing VET qualifications.

Types of knowledge, skills and competences matter for comparison

IVET qualifications are based on different types of learning outcomes: occupational, transversal and knowledge and skills acquired in general subject areas. The characteristic and profile of qualification depends on their weighting, so similar qualifications may feature very different sets of outcomes.

Increased focus on achieved learning outcomes improves comparability of qualifications

While the learning outcomes approach aims to offer a ‘common language’ for comparing qualifications, another crucial issue needs to be borne in mind besides the social constructs that underpin them. The study explores the learning outcomes descriptions: the knowledge, skills and competences qualification holders are expected to possess and not those graduates have actually achieved, can use in their jobs or employers perceive.

CHAPTER 1.

Aim of the study, conceptual framework and research questions

1.1. Background to the study: implementation of the EQF recommendation

1.1.1. EQF recommendation

This study supports the implementation of the recommendation of the European Parliament and the Council on the European qualifications framework for lifelong learning (EQF) and the corresponding national qualifications frameworks (NQFs).

The EQF was adopted by the Council of the EU and the European Parliament in the recommendation of 23 April 2008 and revised in 2017 ([4]). The EQF recommendation builds the formal basis for implementing the EQF, which has at its core the aim to improve the transparency, comparability and portability of citizens' qualifications issued in accordance with the practice in the different Member States.

The recommendation creates a common reference framework of eight levels of learning outcomes that serve as a translation grid between national qualification systems. As an overarching and comprehensive framework (‘meta-framework’), the EQF covers qualifications at all levels and in all subsystems of education and training, vocational education and training being an integral part. Thanks to this overarching, integrative perspective and the learning outcomes approach, the EQF aims to contribute to better understanding of different qualification systems and to aid the transparency and comparability of qualifications and their portability and transfer across countries, systems, sectors and learning contexts.

1.1.2. EQF referencing

The EQF recommendation invites Member States to relate their national qualifications levels to the EQF, and to include a reference to the appropriate EQF

([4]) Council of the European Union, 2017a. This revised EQF recommendation seeks to address some of the challenges and limitations identified in the first years of EQF implementation. It highlights the continuing nature of referencing and the importance of ensuring overall coherence of referencing processes across countries, as well as coherence with other transparency instruments. It also highlights the essential aspect of quality assurance for ensuring trust in the quality and levelling of qualifications with an EQF level.

level on all qualifications issued; these are the two so-called 'milestones' of the recommendation.

EQF referencing describes the process that results in setting up a relationship between the levels of national qualifications, usually defined in terms of a national qualifications framework, and the levels of the EQF. Through this process, national authorities responsible for qualifications systems, in cooperation with stakeholders responsible for developing and using qualifications, define the correspondence between the national qualifications system and the eight levels of the EQF.

Countries describe the outcomes of this process in an EQF referencing report ([5]) that states the relationship between a country's national qualifications system or framework levels and the EQF, at a specific point in time. The 10 *Criteria and procedures for the referencing of national qualifications levels to the EQF* (Council of the European Union, 2017a) provide a basis for the preparation of these reports. They help to ensure the coherent and transparent linking of national qualifications frameworks (or systems) to the EQF. The 10 referencing criteria offer important help so countries can carry out their EQF referencing in a transparent, consistent and trustworthy manner ([6]).

Countries present their reports to the EQF advisory group. The advisory group discusses them and provides feedback on the reports. The presentation and discussion of the reports improves understanding of qualification systems among EQF implementation countries.

By June 2019, a total of 35 countries had referenced their national qualifications levels to the EQF. Frameworks have become more visible and accessible. Some 31 countries indicated EQF/NQF levels on qualifications documents and/or Europass supplements and 24 on their qualifications databases (Cedefop, 2019b).

1.2. Objectives and key research questions

Given this background and the current position in referencing national qualifications levels to the EQF (first phase nearly completed), a comparative perspective on which, and how, initial vocational education and training (IVET)

([5]) Available at: https://ec.europa.eu/ploteus/en/referencing-reports-and-contacts

([6]) The most important referencing criteria are: criterion 2 (a clear and demonstrable link between the qualifications levels in the NQF or system and the level descriptors of the EQF); criterion 3 (central role of learning outcomes); criterion 4 (the procedures for inclusion of qualifications in the NQF or for describing the place of qualifications in the national qualification system are transparent); and criterion 5 (on quality assurance which is a key to ensuring trust).

qualifications are linked to EQF levels can contribute to better transparency and understanding of qualifications, in line with the ultimate objectives of the EQF.

The study is underpinned by the following key research question (Box 1).

Box 1. **Key research question**

To what extent does the process of describing qualifications in terms of learning outcomes and levelling them according to learning outcomes, including the technical and contextual factors, lead to transparency and better comparability of qualifications within countries and between countries? To what extent does the practical EQF implementation help achieve the objectives of the EQF recommendation?

Source: Cedefop's terms of reference.

The key research question is supported by four analytical questions that indicate the study's focus.

Box 2. **Analytical questions**

- What are the main similarities and differences in characteristics, profiles and currencies between initial VET qualifications/qualification types assigned to national levels referenced to EQF levels 3 and 4 within a country, and between countries and between EQF level 3 and level 4?
- Which contextual, social and labour market factors help shape the qualifications and influence the design, currency and levelling of qualifications?
- What are the strengths and weaknesses of the methods, processes and criteria used for linking IVET qualifications to national levels ('levelling') referenced to EQF levels 3 and 4?
- How do the design of qualifications and the levelling approach contribute to the core aim of the EQF, improvement in transparency and comparability of qualifications (within and across) countries?

Source: Cedefop's terms of reference.

1.3. Scope, research framework and methodology

1.3.1. Scope

The study involves the 26 EU and European Free Trade Association (EFTA) countries that completed the referencing to the EQF by mid-June 2016: Austria, Belgium (Flemish and French Community), Bulgaria, Croatia, Czechia, Denmark, Estonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Slovenia, Sweden, Switzerland and United Kingdom (UK-England, Wales and

Northern Ireland; and UK-Scotland). Qualifications or groups of qualifications linked to the same level are broadly comparable in demand and complexity of learning outcomes but can be very different in their specific content. This study focuses on IVET qualifications linked to EQF levels 3 and 4 via their levelling in the national context. Table 1 presents the descriptors defining EQF levels 3 and 4 that express the requirements commonly shared by the qualifications or groups of qualification linked to these levels.

Table 1. **Descriptors defining levels 3 and 4 in the EQF ([7])**

EQF level	Knowledge	Skills	Responsibility and autonomy
The learning outcomes relevant to **Level 3** are	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
The learning outcomes relevant to **Level 4** are	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

Source: Council of the European Union, 2017a, p. 22.

([7]) EQF level 4 refers to factual and theoretical knowledge in broad contexts compared to knowledge of facts, principles, processes and general concepts in the EQF level 3 descriptor. EQF level 4 requires a range of cognitive and practical skills to generate solutions to specific problems while EQF level 3 refers to applying basic methods, tools, materials and information. EQF level 4 introduces the concept of self-management and some responsibility for the performance of others. In comparison, the EQF level 3 descriptor requires demonstration of adapting own behaviour to circumstances. There seems to be clear difference in educational and labour market outcomes for holders of qualifications at these two levels.

This study uses Cedefop's definition for IVET (Cedefop, 2014a), understood as education and training which aims to equip people with knowledge, know-how, skills and/or competences required in particular occupations or more broadly on the labour market and that is carried out in the initial education system, usually before entering working life. The scope and meaning of IVET differs across countries. Usually IVET refers to vocational education paths in international standard classification of education (ISCED) levels 3 and 4 (Cedefop, 2014b, p. 25) ([8]). This study focuses on IVET qualifications from the formal education system; qualifications from outside the formal system are generally out of the scope of this study ([9]).

The study refers to IVET qualifications and groups of qualifications (qualification types sharing qualification type characteristics) linked to EQF levels 3 and 4 via their national classification.

In the EQF, qualification means a formal outcome of a competent body that assesses and validates whether an individual has achieved learning outcomes to given standards (Council of the European Union, 2017a).

The study does not analyse the curricula or programmes that lead to these qualifications. Nationally, however, this distinction is not always clear-cut; most IVET systems have embedded and explicitly linked qualifications to (framework) curricula and training programmes (often defined and regulated nationally) and defined (formal) training pathways for obtaining the IVET qualifications.

The concept of 'qualification type' is defined across Europe to various degrees ([10]). This study uses the following definition: 'A qualification type is a group of qualifications within a country that share specific characteristics, for example in

([8]) ISCED level 3 refers to upper secondary education and ISCED level 4 to post-secondary non-tertiary education – see UNESCO, 2011.

([9]) The definition provided by ISCED 2011 links 'initial education' to 'formal education' (UNESCO, 2011).

([10]) New national qualifications frameworks of Croatia, Greece and Malta explicitly include qualification types and their specifications as essential tools for including qualifications in the NQF. This is also the case in some earlier NQFs, for example in Australia or New Zealand. In European countries with regulated IVET, the qualification types specifications are mostly defined by legal frameworks. This is the case for most initial VET qualifications referenced to EQF levels 3 and 4. In the NQF development phase and first round of EQF referencing, most countries have included qualifications from regulated formal education and training in the NQFs by qualification types; non-regulated qualifications awarded outside formal education and training have been included individually based on strict quality assurance criteria as, for instance, in the Netherlands. For more information consult the European inventory on NQF 2018 at: https://www.cedefop.europa.eu/en/events-and-projects/projects/national-qualifications-framework-nqf

terms of a subsystem they belong to, legal regulations and regulatory body, purpose, general educational objectives and level as well as duration of related programmes, access or level of labour market entry. Within a qualification type, there can be many different qualifications with regard to the content: the specific learning outcomes they include can be quite different because they are linked to different fields (such as different technical fields, social and health care, business).' ([11]).

The concept of a qualification type needs to be distinguished from 'broader categories' of qualifications. The Slovenian NQF, for example, differentiates between three qualification categories: educational qualifications (awarded by the Ministry of Education), national vocational qualifications (NVQs) (awarded by the Ministry of Labour) and non-regulated supplementary qualifications (awarded by the labour market or other bodies) (Logaj et al., 2014). Further examples for such broader categories include the distinction based on awarding bodies made in France ([12]), or between educational and professional qualifications in Belgium (Flemish Community) (Flemish Parliament, 2009) or the distinction between formal and non-formal qualifications in the Austrian NQF ([13]).

1.3.2. Analytical framework

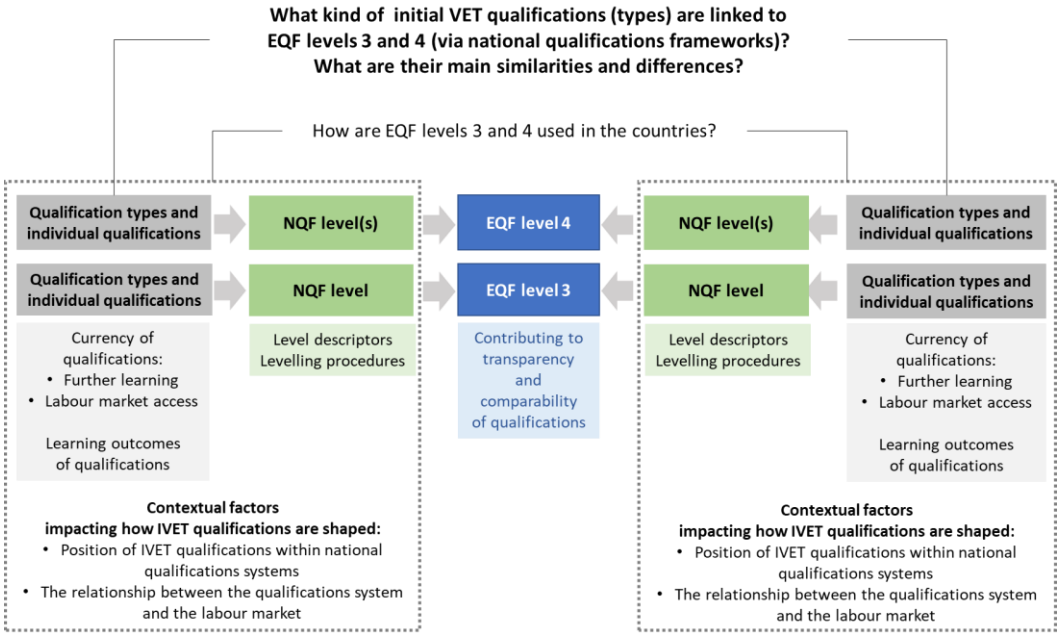
To answer the research questions, the study covered a wide range of topics, dimensions and perspectives. An analytical framework has been developed to disentangle different elements and to reduce complexity. The following schematic overview illustrates the elements that need to be explored and how the information gathered provides evidence to answer this study's analytical questions and to clarify its key area of inquiry.

([11]) This definition was developed in the Cedefop study on *Qualifications at level 5: progressing in a career or to higher education* (Cedefop, 2014c, p. 142). In Slovenia, for example, a type of qualification 'means a group of qualifications united by the same qualification category, the same qualification level and a related general purpose of qualification from the point of view of further education or employment' (Logaj et al., 2014, p. 83).

([12]) The French NQF distinguishes between four main qualification categories based on their awarding body: those awarded on behalf of the State by French ministries (on recommendation and in cooperation with the social partners through a consultative vocational committee called the *Commission professionnelle consultative*, CPC); those issued on behalf of the State, but where no CPC is in place; those awarded by public or private bodies in their own name; and sector-specific or industry level qualifications (CQP); https://www.cedefop.europa.eu/files/france_-_european_inventory_on_nqf_2018.pdf

([13]) The Austrian NQF makes a distinction between formal qualifications with a legal basis and non-formal qualifications not supported by legislation.

Figure 1. **Analytical framework: schematic overview**



Source: Cedefop.

To answer the research questions, the analytical framework considers the aspects analysed in Sections 1.3.2.1 to 1.3.2.5.

1.3.2.1. *Currency of IVET qualifications linked to EQF levels 3 and 4*

The currency of qualifications refers to their value, their functions and purposes and their educational and labour market outcomes. Qualifications are a currency in three – partly interlinked – directions ([14]):

(a) qualifications provide entry to or advancement in the labour market: this relates to the possible link between a qualification and a particular occupation, whether the qualification provides access to a regulated occupation/profession, how holders of the qualification will be located in the occupational hierarchy, and whether wage levels are associated with specific (levels of) qualifications;

(b) qualifications open up possibilities for further learning: this relates to the position of the qualification in the education system, the rights and obligations associated with a qualification in the education system;

(c) qualifications contribute to social inclusion and social mobility: this relates to social status associated with a qualification or a qualification level and the kind of societal opportunities this status provides.

([14]) See also Gallacher et al., 2012 and Wheelahan et al., 2015.

A qualification can (some might say needs to) fulfil all three purposes, or one aspect might be more strongly emphasised compared to others. The chosen emphasis is reflected in the standard underpinning a qualification, in stakeholders' involvement when designing a qualification, and in the qualification's content (the profile of learning outcomes it includes).

1.3.2.2. *Learning outcomes of IVET qualifications linked to EQF levels 3 and 4*

Learning outcomes are core characteristics of qualifications and their design; different types of learning outcomes (occupational and transversal learning outcomes and general knowledge subjects) are embedded in qualifications. Learning outcomes also play a key role in comparing qualifications across levels, systems and countries.

1.3.2.3. *Levelling of IVET qualifications to national levels linked to EQF levels 3 and 4*

NQF level descriptors serve as the reference points for levelling qualifications and the design and renewal of qualifications. Countries might have different levelling procedures for different types of qualification from different segments of the qualifications system (such as general education, vocational education and training, higher education) or State-regulated and non State-regulated qualifications. Two main approaches can be distinguished:

(a) technical or linguistic analysis (mapping or matching): this refers to the procedure of comparing qualifications descriptors (learning outcomes) with NQF level descriptors and allocating qualifications based on this linguistic matching;

(b) contextual matching/social or political approach: qualifications are understood as social constructs and as outcomes of social dialogue embedded in governmental and institutional structures. These aspects matter when countries level their qualifications. The social or political approach for levelling considers how qualifications are regarded at national level: their currency and outcomes in the labour market, in further education and in the society.

1.3.2.4. *Contextual factors: qualifications system and labour market*

NQFs are embedded in the national context and the way IVET qualifications are shaped and levelled depends on several contextual factors: the characteristics of the national qualifications system, awarding institutions, the structure of the labour market and the relationship between the qualifications system and the labour market. These contextual factors are important background information that helps

understand differences and similarities in qualifications or main types of qualifications between countries.

1.3.2.5. *Transparency and comparability of qualifications*

This study's key focus is to what extent the EQF fulfils its role as a translation device supporting transparency and comparability of qualifications:

(a) transparency of qualifications refers to the 'degree of visibility and legibility of qualifications, of their content and value on the sectoral, regional, national or international labour market and in the education and training systems' (Cedefop, 2014a, p. 275). Transparency can be considered as a precondition for comparability of qualifications. The ultimate objective of transparency of qualifications is to establish trust;

(b) comparability of qualifications ([15]) refers to extent to which it is possible to determine the degree of similarity of qualifications (level, purpose, learning outcomes, quality assurance) at sectoral, regional, national or international levels ([16]). This can also be understood as 'face value' of a qualification. Comparability of qualifications improves individuals' employability and mobility, one of the purposes of the European qualifications framework.

1.3.3. Methodological approach

The methodology included two types of research:

(a) country overviews;

(b) case studies.

Country overviews were developed based on desk research and interviews with relevant stakeholders in the countries covered by this study. Country researchers reviewed different sources and research literature, including documents or websites related to IVET qualifications linked to EQF levels 3 and 4 (such as qualification standards, legal acts, and curricula). They also reviewed EQF referencing reports, documents or websites related to the NQF and levelling procedures, documentation/reports of relevant national research projects and studies. Reports of relevant European projects and studies were also included. The interviewees represented authorities responsible for the IVET qualifications identified and those involved in levelling these qualifications. In total, 93 stakeholders were interviewed.

([15]) This term must not be confused with 'equivalence of qualifications' which refers to the acknowledgement of the value of certificates or diplomas by another country, including the associated rights.

([16]) Adapted from Cedefop, 2014a.

In a second step, case studies deepened the understanding of qualifications, learning outcomes and the levelling decisions. The example of car mechanic qualifications linked to EQF levels 3 and 4 was used to analyse further the learning outcomes and the levelling approaches. The methods included focus groups (semi-structured, in-depth group interviews) and additional interviews with national stakeholders. Focus groups were organised to understand the qualifications' learning outcomes better using sectoral expertise. Focus group composition depended on the national context but generally included experts from the car mechanic sector, experts in designing these (car mechanic) qualifications, and experts in levelling. In total, 32 stakeholders were involved in the case studies (Chapter 4).

During this study's final phase, an expert workshop was organised when the data collection had almost been finalised and the analysis and interpretation of results was in process. The workshop, with experts involved in the case studies, sought to discuss and validate the preliminary findings of the comparative analysis (based on data from the case studies as well as from the previous research phases) and gain further insights into similarities and differences of qualifications/types of qualifications at EQF levels 3 and 4.

1.4. Research challenges and limitations

This study has an explorative character. It aims at exploring what kinds of IVET qualifications are linked to EQF levels 3 and 4 (via national classifications), what their purposes and functions are, how they are levelled and, more general, how EQF levels 3 and 4 are used in the in the 26 EU and EFTA countries included in the study.

As in similar studies, this explorative study faced the challenges and limitations of comparative interpretation of the findings. The concepts used for analysing differences and similarities within and across the countries covered aim to improve comparison across countries, but the study found that they are often interpreted differently in the national context. To ensure a common understanding, this study provided definitions and explanations of key concepts. However, country experts or interviewees shaped some classifications, such as whether a qualification prepares for 'skilled or semi-skilled work'. Since only a limited number of interviews were conducted in each country, this study may have missed other perspectives that might exist. Also, qualifications systems are in transition in some countries, with changing contexts that influence qualifications.

This study focused on qualifications. Distinction between qualifications and programmes is not always clear cut; initial vocational educational programmes do not always provide clear information on related qualifications and their titles.

The analysis and comparison of car mechanic qualifications in the case studies is based on reference points: the European skills, competences, qualifications and occupations (ESCO) and the world skills standards specifications (WSSS); however, these are not specifically developed for this purpose. Focus groups discussed the usability of these reference points for comparing and levelling car mechanic qualifications but some sectoral experts only had a limited awareness of ESCO, WSSS or the EQF.

1.5. The structure of this report

Chapters 2 to 6 present this study's findings:

(a) Chapter 2 presents the state of play of NQF implementation in different national contexts and referencing to the EQF, introduces the IVET qualifications (types) linked to EQF levels 3 and 4 via their inclusion in these NQFs and analyses the prominence of IVET qualifications at EQF levels 3 and 4 compared to the existence of other qualifications linked to these levels;

(b) Chapter 3 discusses the currency that IVET qualifications at EQF levels 3 and 4 have in the labour market and in further learning;

(c) Chapter 4 compares the profile of the learning outcomes, referring to the balance between input and outcome descriptions, the mode of describing and presenting learning outcomes, and the balance between general knowledge subjects, occupational and transversal learning outcomes. It focuses on the car mechanic qualifications analysed in the case studies and discusses the opportunities and challenges of comparing their learning outcomes by mapping them to specific reference points;

(d) Chapter 5 analyses the levelling approaches, the assigning of qualifications or qualification types to national levels referenced to EQF levels 3 and 4. It focuses on the principles, procedures and methods used in the levelling processes. It also discusses the strengths and weaknesses of levelling procedures, as well as any impact of levelling decisions identified so far;

(e) Chapter 6 presents conclusions in relation to the key research questions and policy implications, with further reflection on how to improve transparency and comparability of qualifications to strengthen trust between countries.

CHAPTER 2.

NQF implementation and qualifications linked to EQF levels 3 and 4

Chapter 2 provides insight into the progress made in the national qualifications frameworks (NQFs) implementation in different national contexts and introduces the IVET qualifications linked to national qualifications levels referenced to European qualifications framework (EQF) levels 3 and 4.

2.1. Levelling of IVET qualifications

The result of the levelling of qualifications or types of qualifications can only become relevant (nationally as well as for cross-country cooperation), when a country has made some progress in implementing a NQF. These developments point to national progress in this respect:

(a) the formal adoption of the NQF by national authorities, usually through legislative authorisation;

(b) the visibility of the NQF and/or EQF levels on certificates, diplomas, and certificate supplements.

Sections 2.1.1 and 2.1.2 present observations on these aspects in the countries covered by this study.

2.1.1. Formal NQF adoption by national authorities and the establishment of a legal basis

The NQFs in most countries covered by this study have already reached operational status (Cedefop, 2019a): Austria, Belgium (Flemish Community), Denmark, Estonia, France, Germany, Ireland, Latvia, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Slovenia, Switzerland, and the frameworks in the United Kingdom. Czechia is also considered as belonging to this group but only through the partial framework for vocational qualifications *národní soustava kvalifikací* (NSK) since there is no comprehensive NQF also including formal IVET qualifications. In Belgium (French Community), Bulgaria, Croatia, Greece, Hungary, Iceland, Lithuania and Sweden, the NQF is at an early operational stage. Italy (where major national qualifications from formal education and training were linked directly to EQF) has formally adopted a comprehensive

NQF but it is not yet operational. France has recently (January 2019) revised its framework and introduced an eight-level framework.

Most countries have specific legislative authorisation for the NQF ([17]) and for assigning qualifications to NQF levels; in some cases the procedures for allocating qualifications to its levels have also been formally adopted. In some countries, the legal basis for the NQF has only recently been introduced (within the last two to three years): examples include Austria, Belgium (French Community) and Italy. In Norway the NQF was adopted by the Ministry of Education and Research in 2011 and further legally defined in a regulation in December 2017. In the Netherlands it is currently in preparation. However, the (detailed) procedures for levelling qualifications are not necessarily included in NQF regulations. Also, some countries do not have separate legislative authorisation for the NQF, such as Iceland or the UK-Scotland. Czechia has yet to decide whether to develop a comprehensive NQF.

In some countries, qualifications or types of qualifications were assigned to levels when developing the NQF and/or referencing to the EQF, particularly when there was no comprehensive NQF as in Czechia or Italy. In the countries with an explicit procedure for assigning qualifications, the legal basis of the NQF does not necessarily mean the compulsory allocation of formal qualifications to NQF levels, although this is the general trend. Austria has voluntary 'mapping of qualifications'. Similarly, Switzerland allows the awarding bodies (professional organisations) to decide whether they want to initiate a levelling process for their qualifications.

2.1.2. Increasing visibility of the NQF and/or EQF levels

EQF visibility is an important aspect of its implementation across Europe; references to the relevant EQF level in new qualifications certificates, diplomas and Europass supplements reveal measurable achievements in implementing the EQF. The results of levelling (assigning qualifications or types of qualifications to NQF levels) can be communicated by including qualifications in a specific NQF database or register; certificates and diplomas can also display the respective NQF and EQF level. When NQF and EQF levels are included on certificates and diplomas, as well as in qualifications databases, this provides an important increase in the awareness of individual learners and other end-users of the frameworks. In 24 countries covered by the study, the respective NQF/EQF levels

([17]) Formal adoption means different things in different countries, reflecting the respective national, political and legislative context and culture. It can range from the introduction of specific NQF acts or government decisions to amendments of existing laws and regulations or stakeholder agreements. While formats vary across European countries, formal adoption is generally a prerequisite for implementation.

are displayed on certificates, diploma or Europass supplements. A number of countries, such as Estonia, Germany and Slovenia, include references to NQF/EQF levels in all qualifications documents, vocational and general. In most countries, however, much progress has been made in vocational education and training (IVET and/or continuing vocational education and training (CVET)) and, to a lesser extent, in general education qualifications. The inclusion of NQF/EQF levels in higher education qualifications has so far been limited, with the exception of the Europass diploma supplement.

Most countries include the levelled qualifications in a register. However, this register is not necessarily a database with detailed information on levelled qualifications. Sometimes, it merely lists qualifications allocated to NQF levels, such as in Hungary ([18]), Malta ([19]), and Switzerland ([20]). Comprehensive registers, including all levels and types of qualifications refer to NQF and EQF levels, such as in Germany ([21]) and Slovenia ([22]). In some countries, where the NQF levels equal the EQF levels, the register only refers to the NQF levels but not to the EQF levels of qualifications, such as in Austria ([23]), Denmark ([24]), Greece ([25]) and Switzerland. In Ireland, the register of qualifications awarded by the Quality and Qualifications Ireland (QQI) currently only refers to NQF levels ([26]) but the register will be extended to include all national qualifications and this new database will include NQF and EQF levels for each qualification.

These observations indicate that progress has been made on implementing NQFs in the countries included in this study ([27]).

([18]) https://www.nive.hu/Downloads/Szakkepzesi_dokumentumok/OKJ/DL.php?f=OKJ_150_2012_VII_6_Korm_rend_20160810.xlsx

([19]) http://ncfhe.gov.mt/en/register/Pages/register.aspx

([20]) https://www.admin.ch/opc/de/classified-compilation/20151046/index.html

([21]) https://www.dqr.de/content/2316.php

([22]) https://www.nok.si/en

([23]) www.qualifikationsregister.at

([24]) https://ufm.dk/en/education/recognition-and-transparency/transparency-tools/qualifications-frameworks/types-of-certificates-and-degrees/hardtableview

([25]) http://proson.eoppep.gr/en/QualificationTypes/Details/59

([26]) http://qsearch.qqi.ie/WebPart/Search?searchtype=awards

([27]) For more information, consult: Cedefop, 2019b; European NQF inventory: https://www.cedefop.europa.eu/en/events-and-projects/projects/national-qualifications-framework-nqf/european-inventory?search=&year=2018-01-01+00%3A00%3A00&country=All&items_per_page=50

2.2. Overview of qualifications at EQF levels 3 and 4

2.2.1. Overview of qualification types

The focus of this study is on qualifications linked to EQF levels 3 and 4. The mapping overview identified 72 IVET qualification types ([28]) currently linked to EQF levels 3 and 4 in 26 countries (covered by the study) via their inclusion in NQFs referenced to the EQF as of June 2016 ([29]); 31 are linked to EQF level 3 and 41 to EQF level 4:

(a) EQF level 3:
   (i) Austria, Portugal, and Sweden (currently) do not have any IVET qualification linked to EQF level 3;
   (ii) many countries have one type of IVET qualifications linked to EQF level 3: for example Belgium (Flemish Community), Bulgaria, Croatia, Czechia, Estonia, Iceland, Italy, Latvia, Lithuania, Netherlands, Norway and Slovenia;
   (iii) four countries have two IVET qualification types linked to EQF level 3: France, Hungary, Ireland, Poland, United Kingdom (UK-England, Wales and UK-Scotland);
   (iv) Ireland has three IVET classes of qualifications linked to EQF level 3 (major award, minor award and special purpose award);

(b) EQF level 4:
   (i) all countries have at least one type of initial vocational qualification at this level, including Bulgaria, Czechia, Denmark, France ([30]), Latvia, Lithuania, Malta, Netherlands, Norway, Portugal, Sweden, Switzerland;

([28]) A qualification type is a group or cluster of qualifications within a country that share common characteristics, for example in terms of a subsystem they belong to, legal regulations and regulatory body, purpose, general educational objectives and level, as well as duration of related programmes, access requirements or level of labour market entry. Within a qualification type, there can be many different qualifications with regard to the content: the specific learning outcomes they include can be quite different because they are linked to different fields (such as different technical fields, social and health care, business). IVET qualifications specifications at EQF level 3 and 4 are mostly regulated by law.

([29]) The list of qualification types is available in Annex 1.

([30]) In France, the technological baccalaureate (*Baccalauréat technologique*) included in the NQF and linked to EQF level 4 is not a vocational degree *stricto sensu*. It focuses more on theoretical aspects, does not include an internship or work-based learning and its main purpose is to provide a pathway to VET at higher levels: less than 3% of *'bac techno'* graduates try to enter the labour market. Thus, this study also does not consider it as IVET qualification.

(ii) 11 countries have two IVET qualification types linked to EQF level 4: Austria, Belgium (Flemish Community), Croatia, Estonia, Germany, Greece, Hungary, Ireland, Poland, Slovenia, United Kingdom (UK-England, Wales and Northern Ireland and UK- Scotland);

(iii) Italy has three IVET qualification types linked to EQF level 4 ([31]).

A few countries use the concept of 'partial qualification' at EQF levels 3 and 4. However, they understand and apply this concept very differently:

(a) Poland has explicitly defined 'partial qualifications' at EQF levels 3 and 4. Introduced in 2012, they generally have a narrower range of required learning outcomes than full qualifications. Having a partial qualification may be a requirement for employment in a particular position and they can supplement a full qualification, broadening or deepening a person's preparation for an occupation ([32]);

(b) Ireland does not use the term 'partial qualification' but introduced award classes ([33]) linked to EQF levels that narrowly relate to the scope of learning outcomes covered: 'minor awards' (EQF levels 3 and 4) provide recognition for learners who achieve a range of learning outcomes but not the specific combination of learning outcomes required for a 'major award'. These awards allow learners to build up units of learning at their own pace to meet their own needs. A 'minor award' must be linked to a 'major award', the main class of award made at a level;

(c) Norway uses EQF level 3 for partial qualifications reached in upper secondary education and training (general as well as vocational). Learners receive a 'certificate of partially completed upper secondary education and training' (*Kompetansebevis*). This proof of basic competences also serves as a stepping stone for acquiring crafts or journeyman's certificate.

Countries that have IVET qualifications at both EQF levels sometimes use a step-by-step approach, where. qualifications build on each other and provide a progression pathway from one level to the next higher one.

([31]) Professional technician diploma (four-year VET programmes under the competence of the region, IeFP), upper secondary education diploma (technical school), upper secondary education diploma (vocational school).

([32]) http://www.kwalifikacje.edu.pl/en/glossary

([33]) The Irish NFQ includes five classes of award type: major, minor, special-purpose, professional and supplemental.

Box 3. **Step-by-step approach: examples**

In the Netherlands, upper secondary IVET consists of qualifications at four levels; an entry level and three occupation-oriented levels (basic, skilled, specialist) allowing progression routes between the different levels. When the qualifications on different levels are within the same occupational orientation, there are possibilities to enter the higher-level programme in a second year. This is at the discretion of the VET provider. For car mechanic, the following qualifications can be found:

- Dutch NQF (NLQF) 2/EQF 2: basic car mechanic (*Autotechnicus*);
- NLQF 3/EQF 3: skilled car mechanic (*Eerste autotechnicus*);
- NLQF 4/EQF 4: technical specialist passenger cars (*Technisch Specialist Personenautos*).

In Slovenia, the vocational qualifications related to car mechanic qualification can be found at EQF levels 3 to 5:

- Slovenian NQF (SQF) 3/EQF 3: assistant in technology processes (*Pomočnik v tehnoloških procesih*);
- SQF 4/EQF 4: vehicle mechanic (*Avtoserviser*);
- SQF 5/EQF 4: automotive service technician (*Avtoservisni tehnik*);
- SQF 6/EQF 5: vehicle service engineer (*Avtoservisni inženir*).

Qualifications build on each other in a step-by-step approach with an increasing level of complexity in the included learning outcomes.

Source: Country overviews and case studies.

In some countries, IVET qualifications are (also) offered at EQF level 5 ([34]). This report lists the relevant qualifications identified with only very brief descriptions. Examples include:

(a) the Austrian college for higher vocational education (VET college) belongs to upper secondary education, lasts for five years and the years one to three are considered as IVET (ISCED 2011 level 3). From the fourth year on, these programmes are classified as ISCED 2011 level 5. The VET college qualifications are allocated to NQF level 5 ([35]). In addition to an in-depth general education, qualifications belonging to this type also provide a higher level of vocational training and conclude with a *Reifeprüfung* (that entitles graduates to undertake a course of study at an Austrian university, University of Applied Sciences or University College of Teacher Education). The training also concludes with a diploma examination that provides access to legally

([34]) This study does not cover these qualification types because EQF level 5 was specifically addressed in a separate study a few years ago – see Cedefop, 2014c.

([35]) www.qualifikationsregister.at

regulated professions complying with Austria's trade and industry code ([36]). These qualifications are considered as equal to or even higher than the upper secondary general education leaving certificate;

(b) in Switzerland most qualifications belonging to federal VET diploma are linked to EQF level 4, though some from the information and communications technology (ICT) or engineering sector are positioned at level 5;

(c) the Irish 'advanced certificate, craft', enables learners to develop a comprehensive range of skills, which may be vocationally specific and/or of a general supervisory nature and require detailed theoretical understanding. Modules include advanced vocational/occupational skills, enabling certificate holders to work independently or progress to higher education and training. The title indicates that this qualification may be achieved only through the traditional (historic) apprenticeship route ([37]);

(d) in Poland, qualifications from the artistic field at EQF/NQF level 5 (such as musical actor qualifications) can be obtained in IVET, but also in post-secondary VET.

2.2.2. IVET qualification prominence at EQF levels 3 and 4

2.2.2.1. *Other qualifications linked to EQF levels 3 and 4*

To understand better the 'prominence' of IVET qualifications and programmes ([38]) and how EQF levels 3 and 4 are used in the national context, this study explored whether any 'other' qualifications or qualification types, in addition to the IVET qualifications analysed in this study, are linked to these levels.

EQF level 3

Eight countries currently do not have other qualifications (types) linked to EQF level 3. These countries include Austria and Sweden which also do not have any IVET qualifications linked to this level, so EQF level 3 is currently empty. The other countries are Croatia, Greece, Italy, Latvia, Norway, and Switzerland.

([36]) http://www.bildungssystem.at/en/school-upper-secondary/college-for-higher-vocational-education/

([37]) The advanced certificate craft – motor mechanics, for example – would be necessary to be 'fully qualified' in car mechanics in the labour market.

([38]) Please note: prominence does not refer to the number of learners or graduates related to a qualification or programme.

EQF level 4

Three countries do not have other qualifications or qualification types linked to EQF level 4: Austria ([39]), Portugal ([40]) and Switzerland ([41]).

Table 2. **Other qualifications linked to EQF levels 3 and 4**

Yes/No	EQF level 3	Number	EQF level 4	Number
No	AT, CH, EL, HR, IT, LV, NO, SE	8	AT, CH, PT	3
Yes	BE-fl, BG, CZ, DE, DK, EE, FR, HU, IE, IS, LU, LT, MT, NL, PL, PT, SI, UK-EWNI, UK-Sc	19	BE-fl, BG, CZ, DE, DK, EE, EL, FR, HR, HU, IE, IS, IT, LU, LT, LV, MT, NL, NO, PL, SE, SI, UK-EWNI, UK-Sc	24
Other	BE-fr (*)	1	BE-fr (*)	1

NB: (*) BE-fr: The qualifications framework for lifelong learning (*Cadre francophone des certifications pour l'éducation et la formation tout au long de la vie*, CFC) was referenced to the EQF in 2013. Qualifications have started to be included only recently and are not included in the research.

Source: Country overviews.

2.2.2.2. *Countries differ in the use of EQF levels 3 and 4*

Countries use EQF levels 3 and 4 in different ways; various qualifications can be found besides the IVET qualifications at EQF levels 3 and 4. Almost all countries include upper secondary general education school-leaving certificates to EQF level 4; some countries have general education certificates also referenced to EQF level 3. Some countries also include vocational/professional qualifications offered outside the formal IVET system, regulated or non-regulated to EQF levels 3 and 4,

([39]) General education qualifications are (currently) not included in Austrian qualifications framework.

([40]) In Portugal the 'upper secondary education and professional internship, minimum six months' (*Ensino secundário vocacionado para prosseguimento de estudos de nível superior acrescido de estágio professional, mínimo de seis meses*)' links to EQF level 4. The six-month professional internship is offered on top of a general education qualification. After successfully concluding an approved six-month professional internship, the general education graduate also receives an accompanying professional certificate. It offers students who remain in the general education sector a way ('back') into professional qualifications, without having to repeat the general education part that also makes up VET education. This study does not consider this qualification type as 'other' qualification type.

([41]) Switzerland has established two sectoral qualifications frameworks: one encompassing vocational and professional education and training (NQF-VPET) and a separate one for qualifications in Swiss higher education (NQF CH-HS). General education is not included.

as in Belgium (Flemish Community), Czechia, Estonia, the Netherlands and Slovenia.

2.2.2.3. *Different types of qualifications linked to EQF level 3, but less widely than EQF level 4*

Initial VET qualifications of shorter duration, more practically oriented, often preparing for occupations that are mainly routine, applying basic methods, tools, materials and information, are referenced to EQF level 3 (see EQF level 3 descriptor). Enrolment in the type of programmes leading to vocational qualifications at EQF level 3 has been falling in past two decades in several of European countries, such as Croatia, Czechia, Poland, and Slovenia (Cedefop, forthcoming a).

Nine countries allocate qualifications belonging to general education to EQF level 3: Bulgaria, Germany, Iceland ([42]), Ireland ([43]), Lithuania, Luxembourg, Malta, Portugal and the United Kingdom. Usually these are lower secondary level qualifications, such as the lower secondary school-leaving certificate in Bulgaria, the general education school-leaving certificate after 10 years at *Realschule* (*Mittlerer Schulabschluss*) in Germany, or the general education (level 3) in Malta. Only in Portugal are upper secondary general education school-leaving certificates, giving access to higher education, placed at EQF level 3.

Seven countries include vocational/professional qualifications offered outside the formal IVET system (regulated or non-regulated) at EQF level 3: Belgium (Flemish Community), Czechia, Estonia, the Netherlands, Poland, Slovenia and the United Kingdom. For example, Czech CVET qualifications are included in the sectoral framework and the register (NSK) ([44]) and in the Netherlands, non State-regulated qualifications are included in a comprehensive framework and the NLQF register ([45]).

([42]) In Iceland, the upper secondary school-leaving certificate is placed at EQF level 3. The possibility of leaving upper secondary school with qualifications below traditional final examinations, such as the matriculation examination or vocational education certificate, was introduced with the new Upper Secondary School Act from 2008. The matriculation examination, giving access to HE, is linked to EQF level 4.

([43]) Leaving certificates, including leaving certificate applied and the leaving certificate vocational programme, span two levels (NFQ levels 4 and 5) and were linked to EQF levels 3 and 4.

([44]) The national register of qualifications (NSK) addresses adults as a main target group and learning outcomes acquired outside formal education and training: https://www.narodnikvalifikace.cz/en-us/

([45]) See for the procedure: http://www.nlqf.nl/inschaling/inschaling

2.2.2.4. *Upper secondary leaving qualifications mostly linked to EQF level 4*

EQF level 4 is widely used and usually accommodates different qualification types, from general education and initial and continuing vocational education and training.

All countries included in the study have at least one type of initial vocational qualification linked to EQF level 4. In many countries, more theoretically founded vocational programmes and qualifications at this level lead to double qualifications that prepare for the labour market, as well as allowing progress to higher education. This type of programme has been increasingly preferred over those that are mainly for direct entry to the labour market and do not lead to higher education., The number of students in these programmes is stable or increasing, while the number of students in shorter, more practically oriented programmes has fallen in the last two decades, for instance in some Eastern European countries (Cedefop, forthcoming a).

Most surveyed countries (the exceptions are Austria, Portugal and Switzerland) ([46]) have assigned qualifications from upper secondary general education to this level. Upper secondary general education school-leaving certificates provide access to higher education; examples include the upper secondary general education school-leaving certificate (*Algemeen Secundair Onderwijs*, ASO) in Belgium (Flemish Community), the upper secondary general education school-leaving certificate (*Allgemeine Hochschulreife*, AHR) in Germany, the upper secondary education with *maturita* exam (*Gymnazium*) in Czechia, the Polish upper secondary school-leaving certificate (*matura*) and the general *matura* certificate in Slovenia. To improve the attractiveness of VET pathway, France and Slovenia have introduced vocational baccalaureates (*Baccalauréats professionnels* and vocational *matura* certificate respectively).

Nine countries also have vocational/professional qualifications offered outside the formal IVET system at this level (Belgium-Flemish Community, Czechia, Estonia, France, Germany, Hungary, Italy, the Netherlands, and Slovenia). These include the professional qualifications in Belgium (Flemish Community), the vocational qualifications included in the NSK in Czechia (such as quality management specialist in engineering or detective trainee), the level 4 occupational qualification in Estonia (such as information technology (IT) specialist), and national vocational qualifications in Slovenia.

([46]) Austria and Switzerland have not included general education qualifications in their respective NQFs. In Portugal the upper secondary general education school-leaving certificate is placed on NQF/EQF level 3.

2.3. Emerging issues

EQF levels 3 and 4 are at the crossroads of general education and VET. Most countries have upper secondary school-leaving qualifications (in particular those that provide access to higher education) linked to EQF level 4; around a third of the countries covered in this study also have general education qualifications linked to EQF level 3, mostly from lower secondary education. Since countries are at different stages of their NQF development and implementation, and many have not yet included qualifications from outside the formal system, the NQF levels should be further populated during the coming years ([47]).

The heart of initial vocational qualifications seems to be EQF level 4. All countries included in the study have IVET qualifications at EQF level 4. This level is shared with upper secondary general education school-leaving certificates in most countries included in the NQFs. Countries share a degree of common understanding of how to use and grant EQF level 4. There seems to be less clear common understanding of using and granting EQF level 3. Some countries use it for low-achieving target groups or for those who need to develop specific competences or attitudes required in working life (such as in Hungary, Norway, or Slovenia). In these cases, EQF level 3 has a social inclusion function to provide learners with an educational pathway, either for progressing in education or for gaining access to the labour market based on their abilities, such as preparing for assistance jobs (as in the case of the Slovenian final examination certificate from two years lower vocational education). The Hungarian leaving certificate and VET qualification (vocational schools for students with special needs) is offered to learners needing special education because of mental or other disabilities. The objective is to prepare students aged 14 to 23 for examinations for obtaining a partial or basic vocational qualification and to provide them with skills necessary to start working and to begin an independent life. Special vocational school programmes last for four years; students with minor mental disabilities have an additional preparatory year in the training.

Other countries' qualifications placed at EQF level 3 are not designed for a specific target group, but EQF level 3 qualifications lead to different labour market positions compared to EQF level 4, where most qualifications lead to skilled work. Qualifications at EQF level 3 open access to occupations that are more routine,

([47]) Cedefop (2018a; 2019b) observes a growing trend to open up frameworks to include qualifications awarded outside the formal/regulated system. For instance, Germany has started working on procedures for including non-formal and private sector qualifications and certificates; other countries, including Austria, Denmark, France, the Netherlands, Poland Slovenia, Sweden and the UK-Scotland, have already set up such procedures.

applying basic methods, tools, material and information as defined by the EQF level 3 indicator. A kind of staged approach allows qualifications to build on each other (as in Belgium (Flemish Community) and the Netherlands). There seems a less clear situation of labour market outcomes for holders of EQF level 3 qualifications (Chapter 3). It is sometimes unclear whether there actually is a labour market need for EQF level 3 qualifications, which are sometimes supply driven, without any underpinning occupational profiles, as shown by the example from Germany (Box 4). In Slovenia in the school year 2017/18, only 2.9% of the students were enrolled in the first year of EQF level 3 VET programmes that prepare for work as an assistant in six occupations (Knavs and Šlander, 2019).

Box 4. **Need for EQF level 3 qualification dependent on sector: example from Germany**

In Germany, few dual VET qualifications at EQF level 3 are 'stand-alone' qualifications; most are only fully recognised when proceeding to the corresponding EQF level 4 qualification. Some sectors (such as construction) have labour market positions for the EQF level 3 qualifications; other sectors do not have positions. For example, the 'motor vehicle service mechanic' qualification was established in 2004 via a 'trial commitment', because some stakeholders (in this case employers) argued that the labour market needs this qualification for tasks such as changing tyres. However, the trial commitment revealed that neither employers nor learners needed the qualifications, since almost no employers offered jobs referring to this level and almost all successful apprentices wanted to continue and obtain the EQF level 4 qualification 'motor vehicle mechatronics technician'. The profile 'service mechanic' was disestablished in 2013.

Source: Country overview Germany.

CHAPTER 3.

Access and progression for education and employment

Chapter 3 discusses differences and similarities related to aspects that play a role in determining the value or 'currency' of qualifications at EQF levels 3 and 4. These aspects include the main purposes and functions for further learning or for the labour market.

3.1. Purposes and currencies of qualifications

Qualifications are carriers of information and their value extensively influences the way individuals, education and training, and labour market institutions interact with one another (Cedefop, 2012, p. 19). In this sense, a qualification can be understood as a currency, something which can be 'exchanged' in three – partly interlinked – directions ([48]):

(a) qualifications provide entry to or progression in the labour market: this relates to the possible link between a qualification and a particular occupation, how holders of the qualification will be located in the occupational hierarchy, and whether wage levels are associated with specific (levels of) qualifications;

(b) qualifications provide possibilities for further learning: this relates to the position of the qualification in the education system, and the rights associated with the qualification in the education system;

(c) qualifications contribute to social inclusion and social mobility: this relates to social status associated with a qualification, or a qualification level and the kind of societal opportunities this provides.

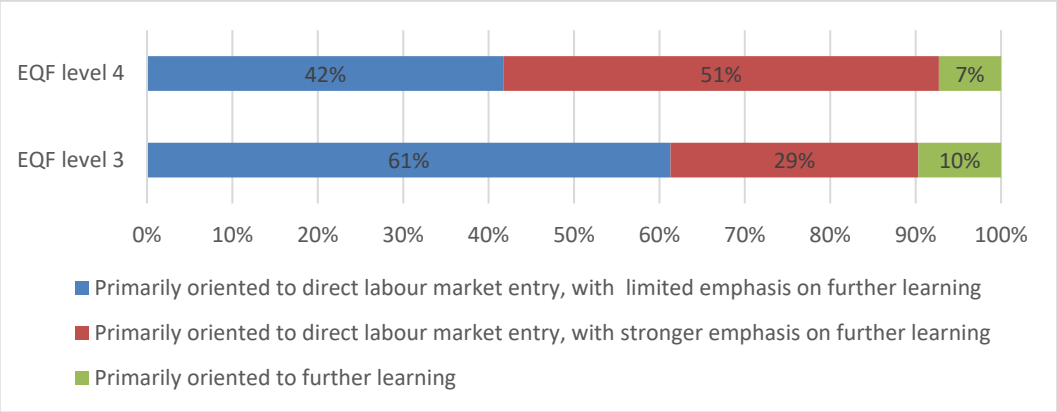
A qualification can (and some might say needs to) fulfil all three purposes, though one aspect of currency might be more strongly emphasised than the others. The standard underpinning a qualification, the approach to and the stakeholders involved in the qualification's design, and the content of the qualification (the profile of learning outcomes included in a qualification) all reflect the choice of purposes and the value of the qualification.

The study explores first the focus of IVET orientation/purpose: it can be oriented to direct labour market entry or towards further learning (including at

([48]) See: Cedefop, 2014c, p. 53; Gallacher et al., 2012; Wheelahan et al., 2015.

higher education levels, EQF levels 5-6). Figure 2 indicates the dominant orientation of the IVET qualification types analysed in this study.

Figure 2. **Dominant orientation of the IVET qualifications (types)**



Source: Country overviews.

Most EQF level 3 qualifications aim to provide access to the labour market, with less emphasis on further learning. Most EQF level 4 qualifications are primarily oriented to direct labour market entry, with stronger emphasis on further learning at higher education levels (for example higher education). Only a few types of IVET qualification are primarily oriented to further learning: three at EQF level 3 and three at EQF level 4 ([49]). Examples include the Czech vocational education – four years of upper secondary vocational education study – with *maturita* exam (ID11) at EQF level 4 ([50]). The Scottish National Qualification Group Awards (NQGA) at EQF level 3 (ID70) and EQF level 4 (ID72) are targeted at both young people (16 to 18 year-olds) and adults in full-time education, normally at a college. They provide learners with a range of skills and knowledge that will help prepare them for employment, or for progression to continuing education and training. They are primarily oriented towards further learning.

Sections 3.2 and 3.3 discuss the different currency aspects of the qualifications at EQF levels 3 and 4: first on access to the labour market and then on progression to further learning.

([49]) At EQF level 3: ID34, ID35, ID70; at EQF level 4: ID11, ID32, ID72 (Table 7, Annex 1).

([50]) See Annex 1, Table 7.

3.2. Entering the labour market

Most IVET qualifications analysed in this study prepare for labour market entry. Qualifications are commonly seen as core instruments for governing and regulating the labour market. They define what a person needs to know and can do to carry out a certain occupation or job (Cedefop, 2013a, p. 8). In this sense, qualifications can have a gate-keeping function towards occupations; it can be a formal requirement for entering an occupation, but a qualification may also only be a desired or recommended asset for practising a certain occupation.

A qualification might be linked to a specific occupation (and might be based on a specific occupational profile/standard) or it might be more broadly usable in the labour market. However, qualifications need to be distinguished from occupations because they are not the same: 'Qualifications are awarded on the basis of particular knowledge or know-how and may or may not be congruent with occupations, which are associated with a particular division of labour within a sector of any given society' (Brockmann et al., 2011a, p. 5).

The currency of a qualification relates to the gate-keeping function (required or desired for occupation or job entry), but also depends on labour market structure and occupational hierarchy. A distinction is made between skilled and semi-skilled workers ([51]). This study uses that distinction, with the observation that these concepts are often interpreted differently in national contexts. However, as Wheelahan and colleagues (2015) suggest, there are considerable debates in national contexts around the extent to which learners are 'job ready' when they leave education. These debates question the direct link between a qualification and an occupation (are those qualified fully skilled for an occupation?).

3.2.1. EQF level 3 qualification types leading to semi-skilled work

At EQF level 3, more than half of analysed qualification types (61%; 19 qualification types) include qualifications leading to semi-skilled work. These qualifications prepare for less complex activities or do not qualify for entry to an occupation at skilled worker position, but rather as assistant. These qualifications often target weaker students who cannot cope with the skills levels associated with skilled worker status (such as working independently).

([51]) Countries' work/labour market systems could be understood as dominated either by the 'organisational space' (with many semi-skilled workers with IVET qualifications) or 'occupational space' (with many skilled workers with IVET qualifications) (Maurice et al., 1986).

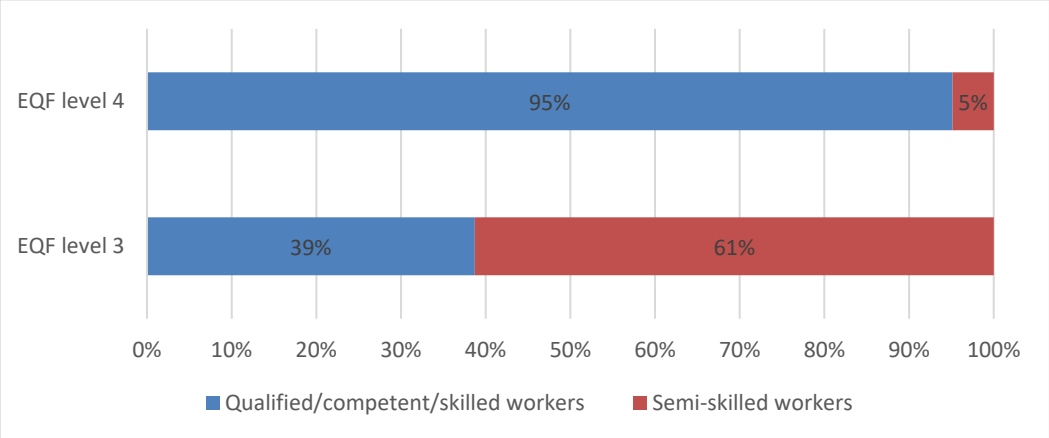
Table 3. **Scope of qualifications: definitions**

	Skilled worker	Semi-skilled worker
Scope	The qualification attests that the person is a qualified/competent/skilled worker, i.e. that he or she has the knowledge, skills and competence required to practise an occupation.	The qualification attests that a person has obtained a set of skills/competences, i.e. that he or she has the skills needed to perform particular tasks/a narrow set of activities (semi-skilled worker).
Explanation	Skilled workers can carry out all skill requirements of an occupational area. Beyond simple coverage of all the skill requirements which underlie the complete sequence of standards, a skilled worker/craftsman is in command of the vocational autonomy to assess, appraise and handle not only the obvious work to be performed but also the implications which it may have and the interdependencies which may occur. Consequently, she or he has the ability to assess the nature of the work to be done, to plan it in all its aspects, to carry it out and to hand over or pass on the completed work wherever relevant.	In comparison to skilled workers, semi-skilled workers can carry out a restricted number of work tasks in an occupational area. These tasks must be regarded as part of the complete portfolio of work of skilled worker. Yet, on top of their restricted scope of skills, semi-skilled workers lack the vocational autonomy of being fully aware of all the implications of their work, in particular of the possible interdependencies between different work activities. Thus, semi-skilled workers may master a limited area of skill requirements.

Source: Spöttl and Ruth, 2011, pp. 148-150.

Figure 3 provides an overview of the scope of the IVET qualifications analysed with regard to preparing for skilled or semi-skilled work.

Figure 3. **Qualifications leading to skilled or semi-skilled workers**



Source: Country overviews.

Box 5. **Certificate of partially completed upper secondary education in Norway, leading to semi-skilled work**

Level 3 in the Norwegian qualifications framework is for partially completed upper secondary education and training. In general, a person who has not achieved a full vocational competence or university admission certification in upper secondary education and training, has a legal right to have this partial competence documented. This was introduced in 1994 in connection with comprehensive reform in upper secondary education and training. Later two distinct schemes leading to partially completed vocational upper secondary education and training were introduced: the training candidate scheme (*lærekandidatordningen*) in 2001 targeting candidates with learning difficulties; and the certificate of practice (*praksisbrevordningen*) in 2016 targeting candidates with low motivation for ordinary schooling.

Learners enrolled in the training candidate scheme are offered an individual curriculum in accordance with their specific needs; in parallel with, but with fewer learning outcomes than, the national curriculum applied at the level of upper secondary vocational education and training EQF level 4. Learning may take place both at school and in the enterprise; and the candidate has a contract with the enterprise. In comparison, the certificate of practice is more structured and group-oriented, supported by a locally determined lesson plan or training curriculum as well as standardised documentation. The certificate of practice documents a lower level of competence than the craft or journeyman's certificate. The two-year practical training schemes are mainly carried out in companies. Subjects comprise core components (work-oriented Norwegian, maths and social science) along with local components geared towards local labour demand. The schemes are offered by counties: each county is obligated to offer at least one certificate of practice scheme.

The training candidates receive a certificate of competence after finalising a competence exam and the candidates of practice receive a certificate of practice and a documentation of their competence after an examination. The schemes share that they define learning around a selection of learning outcomes defined in the national curriculum.

Both schemes have been met with ambiguity by different stakeholders; this is especially the case with the certificate of practice. Some labour market actors stressed the importance of encouraging these students to complete a craft or journeyman's certificate. Others claimed that these students were not motivated and that setting up a new formal certification at lower level had to overrule the interests of the labour market partners and the institutional framework of the craft and journeyman's certificate. All actors accepted, however, the compromise of a two-year qualification, but with the aim to encourage the students to continue to acquire a craft or a journeyman's certificate (Høst, 2011).

Some interviewees pointed out that qualifications found in some branches of the Norwegian economy might be split into partial competences, particularly when qualifications are not linked to a specific trade or occupation. One often-cited example is semi-skilled cooks, only trained to prepare certain meals or dishes. Another illustration of partial competences in the labour market could be a retail shop assistant gradually trained by moving to different shop departments and thereby being able to sell from the various shelves in the supermarket.

Source: Country overview Norway.

The qualifications leading to semi-skilled worker status include some of the identified 'partial' qualifications, such as those in Hungary (ID29), Ireland (ID34), Norway (ID54), Poland (ID57) or a full qualification from two-year lower vocational education in Slovenia (ID62). These qualifications alone do not qualify a graduate to be a fully skilled worker; often another qualification obtained in further learning is needed to become a skilled worker (at the same EQF level 3, or at EQF level 4). In Iceland, qualifications at EQF level 3 are labour-market oriented; they are characterised by short specialisation that mainly aims at providing preparation for further studies or employment that requires the employee to show responsibility and independence within a certain framework and/or under the supervision of others, as for a social and healthcare assistant.

The remaining EQF level 3 qualifications, 12 qualification types (39%), prepare for skilled work. They are listed below and some examples are discussed in the paragraphs following this list:

(a) Belgium (Flemish Community): upper secondary vocational certificate (ID3) is a practically oriented type of education in which the young person receives general education but where the focus primarily lies on learning a specific occupation;
(b) Bulgaria: vocational qualification level 2 (ID6);
(c) Czechia: upper secondary education with VET certificate: three years of upper secondary study (ID10);
(d) Denmark: VET certificate, for example social and healthcare helper, industrial assistant (ID15);
(e) Estonia: VET certificate ([52]) level 3 (ID17);
(f) France: professional skills certificate (*certificate d' aptitude professionelle,* CAP) ([53]) (ID23);
(g) France: brevet of vocational studies (*brevet d' etudes professionnelles,* BEP) (ID24);
(h) Italy: professional operator certificate under the competence of the regions (*attestato di qualifica di operatore professionale*) (IeFP) (ID40);

([52]) Prepare for occupations such as woodworking bench operator and electronic equipment assembler. Completed basic education is not required to enrol in these programmes.

([53]) Demonstrates a first level of qualification to its holder as qualified worker or employee in a given employment sector. There are around 200 CAP specialities relevant to the industrial, commercial and service sectors. CAP provides direct access to employment and/or to upper secondary vocational studies (EQF level 4) in order to prepare for an advanced diploma (*brevet de maitrise,* BM) or a vocational baccalaureate, either at school or through an apprenticeship.

(i) Lithuania: VET diploma at level 3 (ID44);
(j) Luxembourg: vocational aptitude diploma (*diplôme d'aptitude professionnelle,* DAP) ([54]) (ID46);
(k) Latvia: certificate of vocational education (ID48);
(l) Netherlands: VET level 3 (*middelbaar beroepsonderwijs*, MBO3) (ID52).

In France, the intended position after obtaining CAP (ID23) or BEP (ID24), is that of a skilled worker (recognised by the collective agreement *barême de classement*). The CAP 'maintenance of vehicles' provides qualifications as a car mechanic or a mechanic specialised in trucks, buses or motorcycles. In Italy, the professional operator certificate (ID40) is the lowest qualification level to enter the labour market and receive working contracts that recognise roles and positions. They might work with a lower level of autonomy, responsibility and specialisation as holders of professional technician diploma (four-year VET programmes under the competence of the regions), which are linked to EQF level 4 (ID41) but graduates are considered fully skilled in conducting the tasks assigned to them. In the Netherlands, the VET law indicates that this level of qualification is considered a '*vakopleiding'*, a pathway for training people to become a skilled worker and to be able to conduct work tasks independently. The intended job roles and positions of graduates are of someone working independently, but not taking management roles (Box 6) ([55]).

Analysis of EQF level 3 does not reveal a clear-cut pattern of whether qualifications lead to skilled or semi-skilled worker status. First, although more qualifications lead to semi-skilled worker status, many (12) groups of qualifications lead to skilled work. Second, the description 'semi-skilled worker' can have a different meaning across countries. It can mean that the qualification does not prepare for a well-described occupation, that the graduate will work under supervision, or that the graduate requires further learning to become a fully qualified worker. What is considered skilled-worker status might differ across countries. Dutch ([56]) and Italian descriptions at EQF level 3 refer to skilled worker

([54]) The DAP certifies that the holder has the skills to perform the trade/profession in question as a skilled worker. DAP graduates may progress to the third year of a technician programme in the same field of study, the third year of the technical programme, or become a master craftsperson (*brevet de maîtrise*).

([55]) Education and Vocational Education Act (*Wet educatie en beroepsonderwijs*, WEB) Article No 7.2.2: http://wetten.overheid.nl/BWBR0007625/2017-01-01#Hoofdstuk6

([56]) Level 3 qualification holders are considered skilled workers. The chances of entering employment with a MBO level 3 qualification are generally higher than level 2 qualifications. Based on data from 2016-17 (latest available data), 81% of school

status ([57]) despite the worker's lower level of autonomy and scope of tasks; graduates work with lower level of professional autonomy and responsibility compared to EQF level 4 qualifications. In other countries, such as Germany and Switzerland, a skilled worker would exercise full occupational competence, autonomy and responsibility ([58]).

Box 6. **Car mechanic qualification at EQF level 3 from the Netherlands, leading to skilled work**

In the Netherlands, the qualification file for skilled car mechanic at VET level 3 (MBO3, secondary vocational education, professional level; ID52) referenced to EQF level 3 contains the following generic description: 'The skilled car mechanic is employed in workshops of car companies belonging to the mobility industry. His employer can be a brand-name dealer or an independent company. These companies sell new and used passenger cars and they maintain and repair these vehicles. To this end, he must be able to plan his activities, set priorities and make cost/benefit considerations. He sometimes also has contact with customers and must therefore be able to put himself in the position of the person he is talking to. Also, he can be assisted in supervising and supporting students and/or less experienced colleagues.' (SBB, 2015, p. 33).

Source: Country overview Netherlands.

3.2.2. EQF level 4 qualifications leading to skilled work

In contrast with the currency of EQF level 3 qualifications, EQF level 4 qualifications show much greater homogeneity. Most (95%; 39 qualification types) of the EQF level 4 qualifications lead to skilled work. For example, a 'skilled worker's brief' (*Facharbeiterschein*) can be provided for the Austrian VET school qualification (schools for intermediate vocational education, ID01). The job roles

leavers (both school-based full-time or part-time programmes with practical periods in enterprises (*beroepsopleidende leerweg*, BOL) and dual pathway (apprenticeship training) in which learning and working are combined (*beroepsbegeleidende leerweg*, BBL)) are satisfied with the connection between the education pathway and the labour market. 2.4% of school leavers are unemployed (question asked 1.5 years after leaving the education system). For the school-based pathway (BOL), unemployment is 4% and 75% are satisfied with the connection between the education pathway and the labour market. For the work-based pathway (BBL), the unemployment rate is 0.8% and 86% is satisfied. For more information, see: https://roastatistics.maastrichtuniversity.nl/SISOnline/Niveau.aspx

([57]) Whether a qualification at this level gives specific access to occupations depends on the sectors and whether there are specific entry requirements.

([58]) Both countries have occupationally controlled markets: specialised workers (for distinct occupations) gain exclusive rights to perform the tasks connected with these occupations.

depend on the specialisation of the school. Graduates of intermediate vocational schools may enter skilled positions in an occupational hierarchy, such as technical drawer, computer-aided design (CAD) drawer, project assistant, technical salesman or customer adviser ([59]). A skilled worker in automotive technology can obtain positions along the whole value chain of the car manufacturing industry ([60]). The Netherlands offers access to higher education with the highest IVET qualification at level 4 (MBO4; ID53). This EQF level 4 qualification type leads to a position in the labour market that requires the ability to work completely independently ([61]). The VET Law ([62]) indicates that this level of qualification is considered a '*middenkaderopleiding*', understood as training people to function as skilled worker with managerial roles, abilities to work independently and managing teams, and potentially a shop branch or workshop. Box 7 contains a generic description from the qualification file for 'technical specialist passenger cars'.

Box 7. **Car mechanic qualification at EQF level 4 from the Netherlands**

The Dutch 'technical specialist passenger cars' (VET level 4, MBO4, secondary vocational education, middle management level; ID53) is working in repair shops of car dealers. His employer can be an approved dealer or an independent company. These companies sell new and used cars and they maintain and repair these vehicles. A 'technical specialist passenger cars' is expected to be research-minded, possess analytical abilities and be very customer- and service-oriented. He must be able to transfer new technical knowledge to colleagues and should act as the technical contact for customers and other external contacts. He should be able to build trust between the company and the customer. With his knowledge of passenger cars, he can convince customers of the need for work on the vehicle (SBB, 2015, p. 39).

Source: Country overview Netherlands.

Only the Irish certificate NFQ level 5 (major award, ID36) and the NFQ level 5 (minor award, ID37) from Ireland, both referenced to EQF level 4 lead to semi-skilled worker status: they are classified as leading to semi-skilled worker status because having only one of these qualifications does not ensure that the holder

([59]) Intermediate vocational school for mechanical engineering *(Fachschule für Maschinenbau Vöcklabruck)*: www.htlvb.at/?wpdmact=process&did=NS5ob3RsaW5r

([60]) Curriculum of intermediate vocational school for mechanical engineering.

([61]) Education and Vocational Education Act (*Wet educatie en beroepsonderwijs*), Article No 7.2.2: https://www.rijksoverheid.nl/onderwerpen/middelbaar-beroepsonderwijs/inhoud/opleidingen-niveaus-en-leerwegen-in-het-mbo

([62]) http://wetten.overheid.nl/BWBR0007625/2017-01-01#Hoofdstuk6

has all the skills required to work independently as a qualified worker. Ireland associates the skilled-worker status with post-secondary level (EQF level 5) education. Box 8 explains the country-specific dynamics underlying why these qualifications lead to semi-skilled work status, using the certificate NFQ level 5 as an example.

Box 8. **Car mechanic qualification at EQF level 4 from Ireland leading to semi-skilled work**

The Irish certificate level 5 (major award, ID36) in motor technology is designed to enable learners to develop a broad range of skills, which are vocational specific and require a general theoretical understanding. Graduates are expected to work independently while subject to general direction. Most certificate/module holders at NFQ level 5 (EQF level 4) take up positions of employment, although up to a third of holders of this specific qualification are known to progress to further education or training (according to those interviewed for this study). In Ireland, society regards learners as 'fully qualified' car mechanics after successfully achieving the relevant qualification at the next NQF level (NFQ 6/EQF 5). That qualification is generally achieved after completing an apprenticeship. Although the initial levelling of apprenticeships at NQF 6 (EQF 5) was unusual, compared to other European countries, the levelling has recently been confirmed as accurate when qualifications at these levels recently underwent revalidation. In this context, many providers promote the NQF level 5 (EQF 4) qualification in motor technology as a suitable 'pre-apprenticeship' route in addition to its value more generally in broadly related employment.

Source: Country overview and case study Ireland.

3.3. Progression to further learning

IVET qualifications have various functions for further learning; they can provide access to other learning pathways and they can link to other qualifications. Four options determine the relationship of IVET qualifications to further learning:

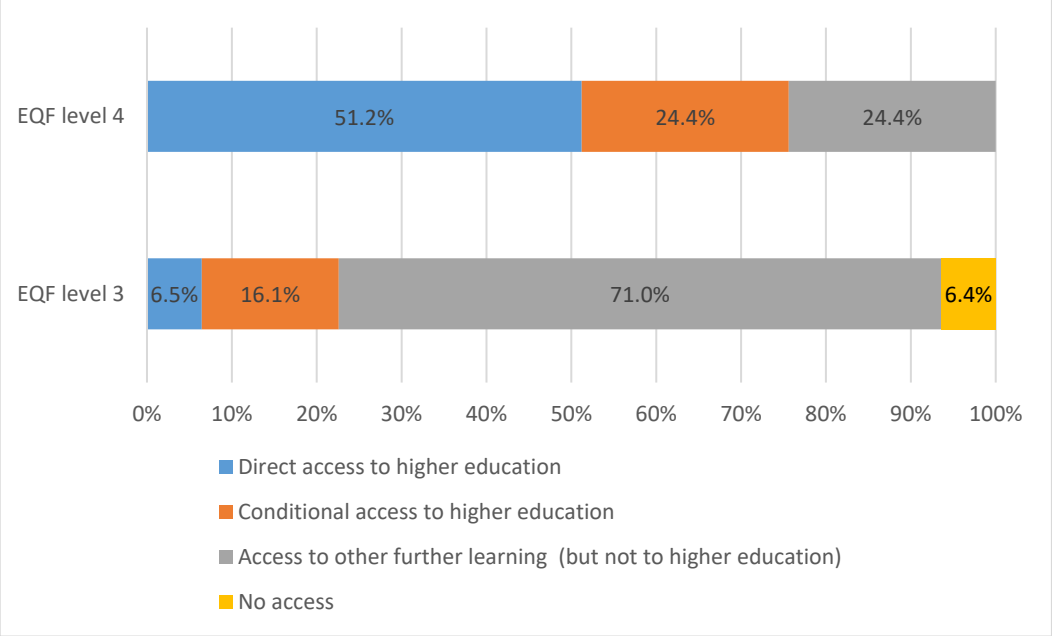
(a) direct access to higher education ([63]): holders of these qualifications can access a programme in a higher education institution. Access might be limited to specific professional fields or to studies at specific higher education institutions, such as universities of applied science;

([63]) A 'qualification giving access to higher education' is understood as 'any diploma or other certificate issued by a competent authority attesting the successful completion of an education programme and giving the holder of the qualification the right to be considered for admission to higher education'; 'higher education' refers to 'all types of courses of study, or sets of courses of study, training or training for research at the post-secondary level which are recognised by the relevant authorities of a party as belonging to its higher education system' (Council of Europe, 1997, Definitions).

(b) conditional access to higher education: graduates need to complete an additional education programme or pass a specific exam to gain access to higher education;
(c) access to other further learning (but not higher education): holders of qualifications can access a VET programme at the same level or a higher (NQF) level or can access other non-higher education programmes;
(d) no access to further learning: a last option is that the qualification does not provide access to further learning. This, however, does not mean that a graduate cannot continue to learn, but that the qualification does not open additional learning pathways besides those already available to the graduate before obtaining the qualification.

Figure 4 provides an overview of the possibilities for further learning in the IVET qualifications analysed in this study.

Figure 4. **Access to further learning (including higher education)**



Source: Country overviews.

Most qualifications provide access to some kind of further learning and there are usually no dead ends. But this does not necessarily mean that a step-by-step path always exists towards higher education, as shown in Section 3.3.1.

3.3.1. EQF level 3 qualification: pathways to further learning but not to higher education

As indicated in Figure 4, two of the EQF level 3 qualification types provide direct access to higher education, albeit in a limited form. This is the case for the Danish VET certificate (ID15) and the UK-Scotland national qualification group awards (ID70) ([64]). For example, an NQGA at Scottish credit and qualifications framework (SCQF) level 5/EQF level 3 might be used for progression to more advanced study at HNC/HND EQF level 5. The Danish VET journeyman's certificate gives access to further education at business academies and professional bachelor programmes, if programmes are available. This Danish qualification is, however, a very special case, as VET journeyman certificates are spread over different levels and are assigned to NQF/EQF levels 3, 4 and 5. Access to higher education is usually associated with the journeyman programmes of longer duration and these can usually be found at NQF/EQF levels 4 and 5. Hence, although IVET qualifications at level 3 could, in principle, offer access to higher education, this does not usually happen.

Five groups of qualifications (16.1%) provide conditional access to higher education. These can be found in Czechia (ID10), Estonia (ID17), Iceland (ID38), Lithuania (ID44) and Poland (ID56). Box 9 provides examples from Iceland and Czechia, illustrating that for those qualifications, graduates usually have to obtain some form of school-leaving certificate covering general subjects (languages, maths) in order to obtain entry rights into higher education.

Almost three-quarters of EQF level 3 qualification types (71%; 22 qualification types) provide access to other forms of further learning but not to higher education ([65]). This means that EQF level 3 usually opens routes within the VET system; through intermediary steps (at EQF level 4), possibilities also emerge to enter higher education programmes. The further learning opportunities include entering the next level of VET at EQF level 4 (for example in Bulgaria: ID6, Switzerland: ID8, Germany: ID12, depending on the sector). Further learning can also mean switching from VET to general education, similar to 'conditional access to higher education' and obtaining a school-leaving certificate that offers access to higher education. This occurs in Hungary with the lower secondary and secondary level partial, full and add-on VET qualifications (ID29); and other forms of further learning in the Netherlands (ID52). Box 10 provides an example from the

([64]) National qualification group awards cover national certificates (NCs) and national progression awards (NPAs): https://www.sqa.org.uk/sqa/46552.html

([65]) ID3, ID6, ID8, ID12, ID20, ID23, ID24, ID29, ID30, ID33, ID34, ID35, ID40, ID46, ID48, ID50, ID52, ID54, ID62, ID65, ID66, ID69.

Netherlands of an EQF level 3 qualification that offers further learning opportunities.

Box 9. **Qualification at level 3 providing conditional access to higher education: examples from Czechia and Iceland**

In Czechia, graduates of the upper secondary education with VET certificate (ID10) can continue their studies in two-year follow up programmes in related fields to obtain the *maturita*. The *maturita* exam has a standardised part (exams in general subjects) and a specialised part depending on a particular vocational education programme. A *maturita* exam from any secondary school (regardless of general or vocational orientation) is a prerequisite for applying to all higher education institutions. For example, graduates of the education programme 'repairman of motor vehicles' can continue their studies in the two-year supplementary programme 'automotive diagnostic technician' (*autotronik*). Upon successfully completing the programme and passing *maturita*, exam graduates are ready to work in specialised shops and dealerships with state-of-art technologies or they can study further at higher education institutions.

The Icelandic vocational qualification for professional rights (ID38), linked to EQF level 3, does not provide access to higher education but provides the possibility to continue to post-secondary non-tertiary level diploma of master craftsman (EQF level 5) or take additional courses in general subjects and graduate with a matriculation exam in order to gain access to higher education.

Source: Country overviews.

Offering access to further learning does not necessarily mean that graduates with access to a next level have good chances of success. The Dutch car mechanic case study illustrates the challenges. Some students with EQF level 3 will not be able to continue at the next level. In Hungary, holders of the lower secondary and secondary level partial, full and add-on VET qualifications (ID29) are unlikely to pursue further learning.

Two groups of qualifications at EQF level 3 (6.5%) do not provide opportunities for further learning (Croatia: ID26; Poland: ID57). The Polish vocational certificate (partial vocational qualification; ID57) does not provide opportunities for further learning at higher level. However, holders of a partial qualification can pursue further learning at the same level to obtain a full qualification.

To sum up, EQF level 3 qualifications generally do not result in dead ends but open up pathways to further learning by which their holders can progress to higher education. However, this does not mean that these pathways into higher education are often pursued: EQF level 3 qualifications are – as already illustrated by Figure 2 – mainly oriented towards preparing for the labour market.

Box 10. **Qualification at level 3 providing access to other further learning but not to higher education: example from the Netherlands**

The Dutch VET level 3 qualifications (MBO3, secondary vocational education, professional level; ID52) provide access to an EQF level 4 diploma that then allows access to higher education. In 2016-17 ([66]), 35% of MBO (NQF) level 3 graduates continued learning. Some 67% enrolled in a school-based level 4 programme, 30% enrolled in a work-based level 4 programme, and 3% enrolled in a programme advertised as being at 'hbo-level' ([67]).

There are differences across sectors. The focus group discussions about car mechanic qualifications revealed that students in programmes preparing for a car mechanic qualification at EQF level 3 often face difficulties in certain more technical subjects. This is one reason why hardly any students from this programme continue a level 4 programme after graduation at level 3 skilled car mechanic (*Eerste autotechnicus*).

Source: Country overview and case study Netherlands.

3.3.2. EQF level 4 qualifications and access to higher education

This study found that 21 (51.2%) EQF level 4 qualification types provide direct access to higher education ([68]). This group includes IVET qualifications at EQF level 4 that are explicitly linked to school-leaving certificates providing access to higher education. This is the case, for instance, in Bulgaria (ID7), Czechia (ID11), Hungary (ID32), Italy (ID42, ID43) and Slovenia (ID64). Box 11 provides some examples from Bulgaria, Slovenia and Czechia.

Box 11. **IVET qualification at EQF level 4 with higher education entrance certificate: examples from Bulgaria, Czechia and Slovenia**

Holders of the Bulgarian vocational qualification level 3 (ID7) receive:

- the diploma for completed upper secondary education issued after passing a State matriculation examination providing access to higher education;
- a certificate for a professional qualification after passing a State (final) examination on theory and practice of the profession.

Czechia offers the upper secondary education with *maturita* exam (ID11). This qualification provides access to higher education. About 55% of graduates from upper secondary vocational schools with *maturita* exam continue their studies at higher education institutions. The drop-out rate among the VET graduates is higher than that

([66]) http://roastatistics.maastrichtuniversity.nl/SISOnline/Niveau.aspx

([67]) They enrolled in a programme considered at the same level as a formal associate degree or bachelor programme. The private providers usually offering such programmes do not have the same rights, responsibilities and obligations as formal higher education programmes.

([68]) For instance, ID4, ID5, ID7, ID11, ID25, ID32, ID42, ID43, ID53, ID60, ID64.

of gymnasium graduates (around 30% versus 10%) (NÚV, 2014). One explanation could be that they are less well prepared for further studies and/or they are not as academically/theoretically oriented as gymnasium graduates. Higher education institutions in Czechia are mostly theoretically oriented.

In Slovenia, the vocational education programme completed with the vocational *matura* exam (ID64) enables enrolment in higher vocational and higher education professional study programmes. Passing an additional general *matura* exam is required to enrol in certain university study programmes.

Source: Country overviews.

Offering access does not mean that entering higher education is the main purpose or even a preferred pathway for a holder of a qualification. This is also the case for EQF level 4 qualifications. Figure 2, however, shows that most qualifications at this level are primarily oriented towards labour market; more than half focus on further learning. Belgium (Flemish Community) illustrates the difference in practical use between same-level EQF level 4 qualifications that provide access to higher education. Both the upper secondary vocational education (*Beroepssecundair Onderwijs*, BSO; ID4) and the technical secondary education (*Technisch Secundair Onderwijs*, TSO; ID5) legally provide access to higher education. The examples in Table 4on the car mechanic qualifications are linked to these two qualification types.

The description of Belgium (Flemish Community) qualifications at EQF level 4 clearly notes different advancement to further learning. TSO graduates more often continue further studies in higher education, they obtain more credits in the first year and have a lower drop-out rate. The more practically oriented BSO – despite providing access to higher education – is not a successful route to enter higher education. The Belgium TSO and BSO have clearly different orientations and purposes.

For 10 qualification types (24.4%) ([69]), graduates need to complete an additional education programme or pass a specific exam to gain access to higher education (conditional). This is the case in Austria, Croatia, Estonia, Germany, Iceland, Norway, Poland and Switzerland. An illustration of this is the Croatian upper secondary VET certificate (ID28). This type of qualification gives access to tertiary education by taking State *matura* exams. In some countries, the IVET qualification at level 4 includes the higher education entrance exam (such as in Bulgaria, Czechia, France and Slovenia); in others, an additional higher education entrance exam needs to be taken (as in Croatia and Poland). An example of an

([69]) ID1, ID2, ID9, ID13, ID14, ID19, ID28, ID39, ID55, ID58.

apprenticeship qualification that provides conditional access to higher education is the Austrian apprenticeship diploma (ID2).

Table 4. **Car mechanic qualifications at EQF level 4 and opportunities for further learning: example from Belgium (Flemish Community)**

Auto-electricity – 3rd grade (*Auto-elektriciteit – Derde graad* – BSO) qualification ([70])	**Auto-technics – 3rd grade (*Autotechnieken – Derde graad* – TSO) qualification** ([71])
• Primarily labour market oriented ([72]) • Only 5% of the graduates continue their studies in a professional bachelor programme. • On average, they obtain 22% of the total credits in the first year. 80% of the graduates enrolling in a bachelor programme do not obtain the qualification within five years. The students that continue further learning generally have difficulties in this field ([74]).	• Double qualification ([73]) • 25% of the graduates continue their studies in a professional bachelor programme. • On average, they obtain 53% of the total credits in the first year. Of the graduates enrolling in a bachelor programme, 6% do not obtain the qualification within five years. Although the TSO qualification provides access to higher education, the students that continue further learning generally have difficulties (high drop-out rate) ([75]).

Source: Country overview Belgium (Flemish Community).

Although most EQF level 4 qualifications provide access to higher education, 10 ([76]) qualification types provide access to other further learning opportunities (24.4%). These qualifications can be found in Croatia, Estonia, Greece, Hungary, Italy, Luxembourg, Slovenia and the United Kingdom (UK-England, Wales and Northern Ireland and UK-Scotland). This group portrays a mix of qualifications providing access to general education – for instance Greece (ID21), Hungary (ID31) – and to further vocational specialisation, as in Croatia (ID27), UK-England, Wales and Northern Ireland (ID67 and ID68), UK-Scotland (ID71).

([70]) https://www.onderwijskiezer.be/v2/secundair/sec_detail.php?detail=392&var=3G7BSO
([71]) GO!, 2011.
([72]) Onderwijs, 2015, p. 9.
([73]) Onderwijs, 2015, p. 9.
([74]) https://www.onderwijskiezer.be/v2/secundair/sec_detail.php?detail=392&var=3G7BSO
([75]) https://www.onderwijskiezer.be/v2/secundair/sec_detail.php?detail=183&var=3GTSO
([76]) ID18, ID21, ID27, ID31, ID41, ID47, ID63, ID67, ID68, ID71.

Box 12. **The Austrian apprenticeship diploma: conditional access to higher education**

Austrian apprenticeships are primarily designed for direct labour-market access but many options for further learning are available. Many holders of the apprenticeship diploma (ID2) choose to enter the labour market before continuing education and training at later stages, as some qualifications, such as the master craftsman certificate, demand work experience. However, in a recent study, only 5% of graduates were in education and training 18 months after graduation (AMS et al., 2015). The apprenticeship diploma gives:

- the right to advance to a master craftsman qualification after sufficient work experience (usually this includes attending a preparatory course at an institution of further learning);
- the right to take a VET maturation exam (*Berufsreifeprüfung*) granting higher education access;
- the right to enrol in a supplementary course at a vocational school (*Aufbaulehrgang* leading to a diploma of a college of higher vocational education);
- the right to enrol in an occupation-specific school for further training (*Werkmeisterschule*) leading to a 'work-master certificate' (*Werkmeisterbrief*).

Also, the apprenticeship diploma may offer access to a related programme at a university of applied science. Whether it will be recognised as meeting access requirements differs depending on the programme's subject focus. Professional work experience and passing additional exams are also required.

Source: Country overview Austria.

EQF level 4 qualifications have a high overlap between further learning and their currency on the labour market: most (29 out of 41) lead both to a skilled worker status and provide access to higher education (direct or conditional). Two Irish qualifications lead to semi-skilled worker status and 10 qualification types provide access to other further learning opportunities but not to higher education.

To sum up, all EQF level 4 qualifications analysed in this study provide possibilities for further learning, and more than a half offer direct access to higher education. In many countries, IVET qualifications at EQF level 4 are either directly linked to or incorporate an upper secondary school-leaving certificate; or they provide an easy switch to general education to obtain an upper secondary leaving certificate, which in turn provides access to higher education. Nevertheless, this study's findings show that despite the fact that qualifications provide access to higher education, these vocational pathways are often not the preferred ones for entering higher education. The preferred pathway is via the general education track and the main orientation of most IVET qualifications at EQF level 4 is to access the labour market. The anecdotal evidence on further learning statistics (for instance from Austria and Belgium) supports the finding that the vocational route

(particularly from more practically oriented VET programmes) into higher education is not well travelled. However, there are cases, for instance from Czechia or Slovenia, where more than half of graduates from technical education pathways (EQF level 4) continue to higher education (NÚV, 2014; Knavs and Šlander, 2019).

3.4. Emerging issues

Chapter 3 was dedicated to discussing the currencies of qualifications at EQF levels 3 and 4. This is a challenging issue because assessing currencies largely depends on interpreting concepts in the national context, the opinions on VET qualifications in this context, and on qualitative data. This particularly concerns understanding, in a national context, 'VET qualifications' and the notions 'skilled worker' and 'semi-skilled worker'. Brockmann and colleagues (2011b), for example, point to a distinction between English and 'continental' definitions. The 'latter encompasses the notion of occupational capacity or 'competence', developed through a regulated learning process which encompasses the development of the person as a citizen as well as within the occupation. Qualifications are based on a comprehensive notion of occupation and are designed to enable occupational and social mobility. In England, qualifications are more often awarded on the basis of individual skills and relate to specific fragmented tasks as needed by employers.' (Brockmann et al., 2011b, p. 162). Also, the status of semi-skilled workers can refer to qualifications only providing a part of the learning outcomes needed to be called a skilled worker. Or, semi-skilled can refer to an insufficient level of learning outcomes to be considered a skilled worker. Applying these concepts depends on many contextual characteristics related to the structure of the VET system, the functioning of the labour market and the perceived role of the VET system in relation to the labour market.

One particular function of the VET system is providing a safety net for students unable to obtain a full qualification (Cedefop, 2018b). This relates also to VET's social function at EQF level 3 in some countries: all students, no matter what capacities, should be provided the opportunity to obtain a qualification for entering the labour market. This social function is identified in countries such as Croatia, Czechia, Denmark, Hungary, Iceland, Malta, Norway, Poland and Slovenia. Other countries allocate this social function to VET qualifications at EQF level 2 (as in Luxembourg and the Netherlands). The social function also depends on the economic sector. Some economic sectors have a demand for EQF level 3 graduates; in others, the training at EQF level 3 provides learning pathways towards further learning but these qualifications often do not prepare well for existing jobs.

Despite (or perhaps because of) the social function, VET programmes at EQF level 3 may only offer a limited contribution to social mobility and to solving social inequality; other studies even observed people trapped in a low-skills equilibrium ([77]). This study found an overrepresentation of students with disadvantaged backgrounds in VET programmes preparing for an EQF level 3 qualification. EQF level 3 graduates also often have low success rates in further learning, especially in higher education. For example, in Belgium (Flemish Community), secondary education pathways shape social inequality in entering higher education because more socially disadvantaged students follow secondary vocational education (Glorieux et al., 2014). Only a few graduates of the level 3 VET programme (upper secondary vocational education, second year of the third stage, attestation ID3) continue learning in a programme preparing for an EQF level 4 VET qualification (which provides access to higher education): few students can progress on the social ladder through their educational career, as illustrated by a recent study in Germany. Although Germany is known for its well-functioning VET system, particularly its dual apprenticeship system, and for providing an attractive pathway into skilled work, analyses show that the VET system, like the German school system, is stratified, resulting in social inequalities in labour-market opportunities with qualifications from different VET programmes. The study concludes that the VET system contributes to intra-generational social disparities and inter-generational social immobility (Protsch and Solga, 2016).

Assessing social status reveals that the social esteem of IVET qualifications compared to general education depends on the VET qualification offering access to higher education. If this option is lacking, a second aspect that could uphold the social status is that the VET qualification leads to a highly valued job (skilled worker, highly sought-after occupations).

These nationally defined currencies have meaning in the national context only because qualifications are social constructs. This can lead to difficulties when those qualifications cross borders. Even within the European Union, holders of IVET qualifications might not receive the same status in another country as they would in their home country, since these qualifications are then assessed against another background. VET qualifications are closely aligned with national (or regional) labour-market needs, requirements and regulations. The content of a vocational qualification can differ between countries and so may cause difficulties entering an occupation on the basis of a qualification from another country.

To conclude, EQF level 3 and EQF level 4 usually have distinct profiles. EQF level 4 qualifications generally lead to skilled-worker status, provide (legal)

([77]) See for instance: Fleckenstein and Lee, 2017; Wilson and Hogarth, 2003.

possibilities to enter higher education but are generally used to access the labour market and – depending on the country context – have well-established social status. EQF level 3 qualifications, however, include both qualifications leading to semi-skilled and skilled worker status and they generally provide opportunities for further learning (but not to higher education). In general, VET as a social safety net is more associated with EQF level 3 than EQF level 4.

CHAPTER 4.

Learning outcomes: a common language to compare IVET qualifications

Chapter 4 discusses the characteristics of learning outcomes included in initial vocational education and training (IVET) qualifications. It explores to what extent learning outcomes approaches have led to a common language across Europe and have increased transparency and comparability of qualifications. Also, it applies an approach developed in a previous Cedefop project (Cedefop, unpublished b; Bjørnåvold and Chakroun, 2017) to compare the learning outcomes of car mechanic qualifications linked to EQF levels 3 and 4 from selected countries and to see commonalities and differences in their profiles.

4.1. Characteristics of learning outcomes descriptions

While the learning-outcomes approach is commonly used to describe qualifications, its application and interpretation varies across countries. Learning outcomes differ based on the stakeholders that describe them and a qualification's orientation (towards the labour market or towards the education system), the documents and instruments used to present outcomes, and choices between balancing inputs and learning outcomes. Also, learning-outcomes descriptions differ in length, level of detail, structure and inclusion of different types of learning outcomes (Cedefop, 2016; 2017). Before discussing these aspects in Sections 4.1 to 4.3, the distinction between 'intended' and 'achieved' learning outcomes is introduced:

(a) intended learning outcomes are presented in written qualifications documents. They describe what learners should know and be able to demonstrate at the end of a learning process; they refer to statements and expectations related to learners' performances;

(b) achieved learning outcomes (sets of knowledge, skills and/or competences) are demonstrated by an individual learner at the end of a learning process. Learners take the achieved learning outcomes with them as they enter the labour market and develop themselves in their work and in lifelong learning (Cedefop, 2017).

Chapter 4 focuses on cross-country comparison of the intended learning outcomes described in qualifications documents. However, discussion in

Chapter 3 on currencies of qualifications partially and implicitly addressed achieved learning outcomes as they relate to the value of IVET qualifications on the labour market or in further learning.

4.1.1. Labour market stakeholders and occupational standards in IVET qualifications and learning outcomes design

The design of IVET qualifications is influenced by how they are embedded in the education system and the labour market. Their placement results from such factors as the ownership of qualifications, the authority responsible for designing them, and the stakeholders involved in designing and reviewing qualifications.

4.1.1.1. *Labour market stakeholders and IVET qualifications design*

Although countries usually involve a broad range of inputs, labour market stakeholders play an important role in developing and reviewing qualifications. However, their involvement can take different forms. Usually, employers' inputs are collected through representative bodies, such as employer representatives, sector councils and chambers that may nominate individual companies to take part in the design process. In Denmark, trade committees, representing employers and employees, monitor labour market needs within their specific trade; they can adjust VET programmes and their learning outcomes to the specific needs of their trades. Iceland sets up occupational councils, consisting of employees and employers, to support the description of occupation-related learning outcomes for occupational profiles. In other countries they are called sectoral councils to support developing VET qualifications (such as in Czechia, Estonia, Poland, Portugal, Slovenia, UK-Scotland). While some countries have a long tradition of involving social partners (such as Austria, Denmark, Germany and Switzerland), others have recently implemented relevant structures, as shown by the example from Latvia (Box 13).

4.1.1.2. *Occupational standards in IVET qualifications design*

The embeddedness of qualifications in the education system and the labour market is also reflected in the reference points used to design and document qualifications or their standards. Countries use different documents and instruments to define and describe the intended learning outcomes and these documents can have different functions (Cedefop, unpublished b; Bjørnåvold and Chakroun, 2017, p. 100). Figure 5 provides an overview of such documents.

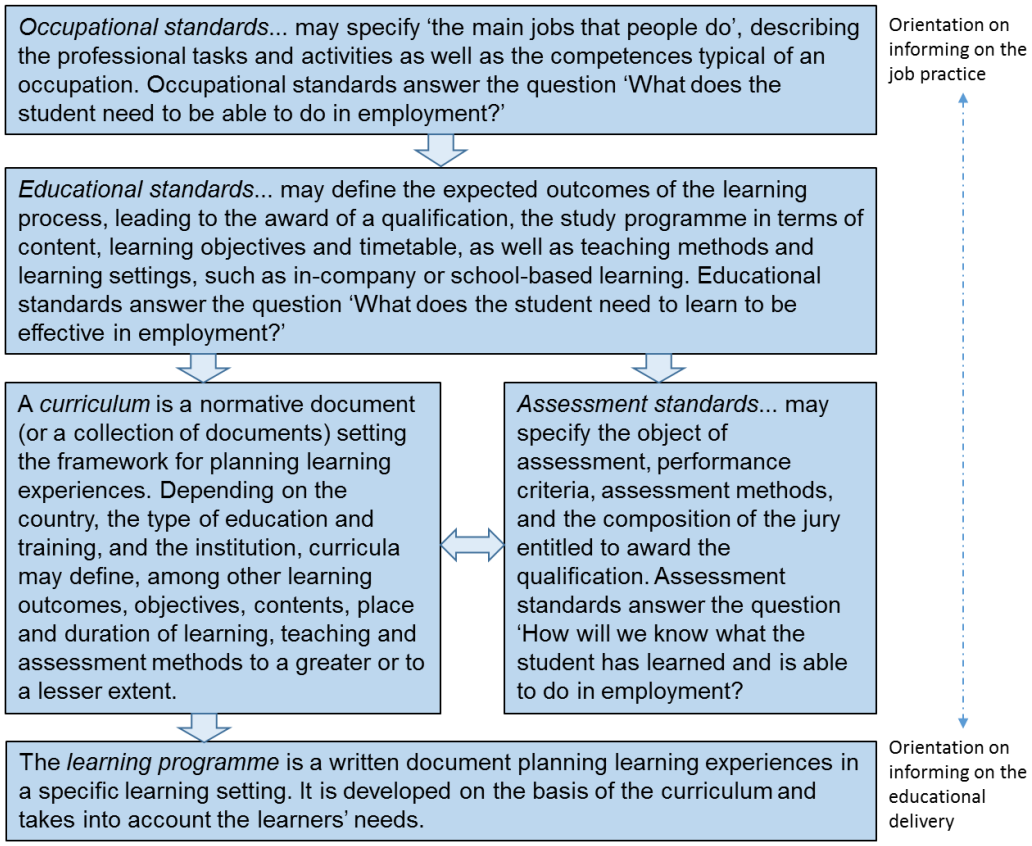
Box 13. **Tripartite council involvement in IVET qualifications design in Latvia**

In Latvia, tripartite sectoral councils (SECs) consist of State and local government representatives, employers' organisations and trade unions. A total of 12 SECs were established in 2011. As part of their duties, these councils help develop content for VET programmes, verify skills needs, and review occupational standards and professional qualification requirements and examinations.

The SECs also play a significant role in uniting representatives from professional associations and sectoral crafts unions in a common effort to determine and introduce labour market requirements into vocational education. Companies help define and validate professional skills through the SECs. The SECs organise research and assessment of competences and skills necessary for their sectors, develop sectoral qualification structures corresponding to the NQF/EQF, provide recommendations about basic professions and the specialisations necessary for the sector, as well as organising the development and updating of sectoral occupational standards.

Source: Country overview Latvia.

Figure 5. **Documents providing information on learning outcomes**



Source: Cedefop, unpublished b; Bjørnåvold and Chakroun, 2017, p. 35, based on definitions of occupational, educational and assessment standards and curricula ([78]).

([78]) Definition of occupational, educational and assessment standards: Cedefop, 2009, p.11; definition of curriculum: Cedefop, 2010, p. 9

Not all countries use these terms and documents to present qualifications and their learning outcomes. These documents may have different functions and learning outcomes descriptions will be described in different ways. While occupational standards are firmly embedded in the labour market, they might be the main reference point for some types of qualification, for example occupational qualifications in Estonia or NVQs in Slovenia. In initial VET they feed into and inform educational standards, curricula, assessment standards and programme descriptions that focus on the learning process and outcomes of learning.

Given labour market stakeholders' important role in designing qualifications and their learning outcomes, occupational standards/profiles form the starting point for designing IVET qualifications in most countries, as in Belgium (Flemish Community), Croatia, Czechia, Denmark, Estonia, France, Germany, Greece, Iceland, Latvia, Luxembourg, the Netherlands, Poland, Portugal, Slovenia and Switzerland. However, this does not mean that educational standards are not used. Rather, it means that countries define and describe the occupation specific learning outcomes by using documents and instruments related to job practice and this can then inform the development of educational standards or framework curricula, also using other sources and standards, and integrate general knowledge subjects.

The Estonian example (Box 15) illustrates how consideration of occupational and educational standards allows education delivery to reflect both supply and demand.

Box 14. **Using occupational standards as a starting point for designing qualifications: example from the Netherlands**

In the Netherlands, IVET qualifications are designed with a close link to a specific occupation. The main source for developing the qualification is the occupational competence profile (*Beroepscompetentieprofiel*), which is structured in core tasks and work processes. This occupational competence profile describes a mature professional (other than the qualification file, describing a beginning professional). The sectoral branches are responsible for this document's descriptions.

The occupational competence profile is used to develop a qualification file (*Kwalificatiedossier*) which describes what starting professionals need to be able to know and do upon obtaining this VET qualification. The document does not refer to any educational context, such as delivering and assessing the learning outcomes or the amount of time devoted to training. The qualification file contains occupation-specific core tasks (*Kerntaken*) and work processes (*Werkprocessen*). Besides that, it contains a 'generic' part referring to Dutch language, numeracy, career and citizenship.

Source: Country overview the Netherlands.

Box 15. **Using occupational and educational standards in combination as a starting point for designing qualifications: example from Estonia**

In Estonia, the educational standards (VET standard) ([79]) prescribe the learning outcomes that should be achieved by a person to be qualified to work at a particular level of competence of the occupation. The national curricula are based on occupational standards (designed for curricula groups, 42 altogether) and are designed by interested parties/stakeholders (representatives of vocational schools, employers, professional associations, and State). In turn, school curricula/study programmes can take local circumstances into account while still being based on national curricula.

Source: Country overview Estonia.

4.1.1.3. *Learning outcomes used to describe IVET qualifications: 'input aspects' also play a role*

The documents and instruments used to design a qualification or (framework) national curriculum ([80]) often do not only include learning outcomes descriptions but also other information ('input aspects'), such as learning content and material, duration of learning and numbers of lessons related to a subject, learning site, teaching and learning process, assessment methods, access requirements or teacher qualifications. Hence the documents used for presenting learning outcomes of IVET qualifications also differ according to the balance between outcome- and input-based descriptions. This study found evidence that qualification descriptions increasingly use learning outcomes but they do not fully replace inputs; instead, outcomes complement and coexist with input factors for IVET qualifications in most countries ([81]).

([79]) Uniform requirements for VET curricula and qualifications are stipulated by the VET standard (Government of the Republic of Estonia, 2013). The vocational education standard describes the requirements for national and school curricula, including objectives, expected learning outcomes, volumes of study and graduation requirements for different types of initial and continuous VET programmes, and requirements for pedagogical professionals. Learning outcomes are defined as occupation-specific knowledge and skills as well as transversal skills: communication; learning, social and entrepreneurial skills; self-awareness; independence and responsibility.

([80]) In many countries, learning outcomes for IVET qualifications are embedded in the national framework curriculum. The distinction to qualification is not clear cut.

([81]) The European handbook on writing learning outcomes states that 'learning outcomes never operate in isolation but have to be defined and written within a broader context where learning inputs are considered. The balance between learning outcomes and other aspects depends on the context in question and purposes addressed' (Cedefop, 2017, p. 44).

Researchers (such as Allais, 2011) also note that focusing only on learning outcomes would not increase transparency, since learning outcomes statements are subject to interpretation and cannot be fully understood independent from content and context ([82]). As also demonstrated by evidence from this study, other factors and information seem relevant when comparing and understanding VET qualifications, for example currency for further learning and/or on the labour market.

4.1.2. Learning outcomes described at different levels of abstraction: a challenge for comparing qualifications

Learning outcomes can be described for the entire qualification (as overarching qualification/graduate profile) and/or for parts of it, such as at the level of modules or course or other smaller components of the qualification. The learning outcomes presented for the whole qualification ([83]) are broader in scope (broad outcomes of a qualification) than those presented for its parts.

Analyses of descriptions of the learning outcomes of qualifications and types of qualification included in the study reveal that 46% of qualifications have learning outcomes described for both the whole qualification and for parts (modules or subjects). Nearly 31% of the qualifications have learning outcomes described for their parts only, while 21% focus only on the whole qualification. For some groups of qualifications, this differs with regard to the specific sector or occupation, as in Switzerland ([84]). Therefore, comparing qualifications based on their learning

([82]) Also, the use of learning outcomes for describing qualifications does not necessarily lead to a shift from an input-based governance approach to an outcome-based one, as the example from Germany shows (Gössling, 2016).

([83]) In the higher education context, the term ‘programme learning outcomes’ is used (see also Luomi-Messerer and Brandstetter, 2011) and is distinguished from learning outcomes descriptions at ‘lower levels’ (such as modules or courses): ‘These are statements of what the graduate of the programme demonstrably knows, understands and is capable of doing when s/he has successfully completed the degree programme. They should be formulated in a manner consistent with the statements of learning outcomes of the several course units/modules offered in the degree programme’ (Lokhoff et al., 2010, p. 22).

([84]) In Swiss VPET, learning outcomes are described in the form of professional competences in qualification profiles (most of professions actually developed these profiles), both as stand-alone standards, but also embedded in different documents, mainly in the training plan and in documents establishing rules for assessing learning outcomes. Qualification profiles, articulated in domains and specific competence areas, include all the necessary competences which graduates must have acquired by the end of the learning process in order to work in their chosen profession. They include professional competences as well as the associated personal and social skills. Depending on the model, professional competences are described as technical

outcomes becomes more complicated when learning outcomes formulated at different levels of abstraction need to be compared with each other.

4.1.3. How learning outcomes are grouped

4.1.3.1. *Use of different structuring elements*

Learning outcomes presented in qualification documents are grouped in different ways. Using country researchers' observations as well as the examples of 'car mechanic' qualifications, three types of structure were identified:

(a) work-activity units;
(b) educational units;
(c) NQF level descriptor elements.

Work-activity units

The term 'work-activity units' refers to learning outcomes grouped by work-related activities (core tasks, processes) in a specific occupation. This results from using occupational standards in the document or instrument that presents learning outcomes. These units provide detailed descriptions of necessary knowledge and skills at work; see example from the Netherlands in Box 16.

Educational units

Educational units refer to learning outcomes grouped in qualification descriptions embedded in the national (framework) curricula with reference to the learning process: as subjects or modules (such as English, French, occupation-specific theoretical subjects), as periods (such as the learning outcomes described per year or semester), or as assessment units. This structural element can usually be found in qualification documents closely related to learning, such as educational standards or curricula. The learning outcomes can be described by further details such as key tasks and learning domains. Box 17 provides an example from Sweden.

competences, methodical competences, personal autonomy and social skills, or knowledge, abilities and attitudes. Various validated methods are used to define competences. The way in which learning outcomes are described generally varies from one profession to another; there are cases (see the watch industry profiles and the ICT profiles) where modules and independent units are used, but in most, learning outcomes are defined by an overarching qualification profile, based on competence domains, each of them structured in operational competences.

Box 16. **Grouping learning outcomes in relation to work tasks**

In the Netherlands, learning outcomes of IVET qualifications are presented in a 'qualification file' which describes the core tasks and work processes (*kerntaken en werkprocessen*) that starting professionals need to be able to master. It describes the occupation, the work attitude of the starting professional, an indication of results (necessary abilities of the qualification holder) and a detailed description of knowledge, skills and competences necessary to perform the core tasks. Each core task refers to complexity, responsibility and autonomy, subject knowledge and skills. Each work process includes a description, an indication of its result and the necessary behaviour. A 'generic part' refers to Dutch language, numeracy and career and citizenship.

Excerpt from the 'technical specialist passenger cars' (EQF level 4):
Core task 1: Carries out maintenance on vehicles or mobile machinery
(Work process)
1.1 Prepares the maintenance working duties
1.2 Carries out the maintenance working duties
1.3 Completes the maintenance work and reports
Core task 2: Carries out repairs on vehicles or mobile machinery
(Work process)
2.1 Prepares the repair working duties
2.2 Carries out the repair working duties
2.3 Completes the repair working duties and reports
Core task 3: Diagnoses the passenger car
(Work process)
3.1 Prepares diagnosis of passenger car
3.2 Makes diagnosis of passenger car
3.3 Completes diagnosis of passenger car

The qualification file is the basis for developing training programme at provider level.

Source: Country overview Netherlands.

Box 17. **Grouping learning outcomes in relation to the learning process**

A programme leading to a Swedish diploma from a national programme in upper secondary education (EQF level 4; ID61) ([85]) covers 2 500 upper secondary school credits (the total of 100 weeks of fulltime studies): 750 credits in core subjects (general subjects), 1 450 credits in subjects specific to a programme (vocationally oriented subjects) and 300 credits as individual options. The general subjects are Swedish, English, mathematics, arts, sports and health, science studies, religious studies and civics.

The car mechanic programme has 750 credits in the core subjects Swedish, English, mathematics, arts, sports and health, science studies, religious studies and civics. A

([85]) Qualification title for students starting 2011 onwards.

car mechanic also has 1 450 credits in the specific programme of the vehicle and transport industry with the following core content:

- professions in the industries, different areas of activity, and conditions in the industry;
- history, development and future of the industries;
- the role of industry in society and its environmental responsibility, such as alternative fuels, recycling requirements and environmentally friendly driving;
- conditions for employment and entrepreneurship in the industry;
- vehicle checking and simple maintenance, such as handling and charging batteries, filling liquids and changing tyres;
- information systems and manuals for vehicles;
- work safety, such as fire and cardiopulmonary resuscitation;
- professional ethics, customer service, communication and the relationship between humans and machines;
- laws and other regulations governing work in the industry;
- traffic rules;
- factors affecting human behaviour in traffic, and how different forms of behaviour affect traffic safety, including risk factors in traffic.

Source: Country overview Sweden.

NQF level descriptor elements

Learning outcomes in qualifications can also be grouped in relation to 'level descriptor elements', such as knowledge, skills, responsibility and autonomy (or other categories used for structuring NQF descriptors). This occurs in Ireland (Box 18).

Figure 6 provides an overview of the dominant structure of the learning outcome descriptions. In 39 qualification types analysed, learning outcome descriptions are grouped in relation to work processes or tasks (work-activity units). In 28 qualification types, the dominant structures are educational units; the qualification description is embedded in the curriculum and closely linked to the learning process. Only in a few countries are learning outcomes structured according to the NQF level descriptor learning domains. No clear difference exists between the EQF level 3 and EQF level 4.

Box 18. **Grouping learning outcomes in relation to level descriptor elements**

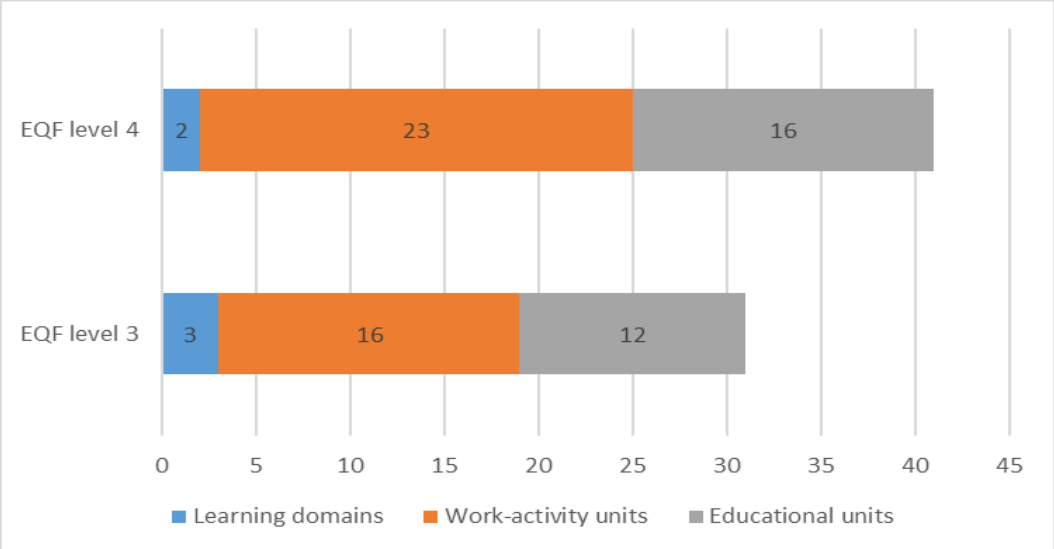
Learning outcomes in the Irish certificate in motor technology at NFQ level 5 (major award) at EQF level 4 (ID36) are based on NQF level descriptor elements which have eight sub-strands: knowledge (breadth, kind); know-how and skill (range, selectivity); competence (context, role, learning to learn, insight). Knowledge, know-how and skill reflect the specific vocational area. Competence is about the learner applying knowledge, know-how and skill in the vocational area but also developing transversal skills through insight and learning to learn.

Excerpt from the certificate in motor technology at NFQ level 5 ([86]):

- knowledge (breadth): demonstrate a broad range of knowledge regarding diagnostic, maintenance and installation procedures on electronic and mechanical components, relevant to the motor technology sector;
- know-how and skill (selectivity): exercise judgment in selecting appropriate maintenance strategies and fault-finding procedures in relation to the motor technology sector;
- competence (role): exercise and direct initiatives in a mechanical workshop environment while recognising the importance of teamwork and partnership with all stakeholders;
- competence (learning to learn): demonstrate an ability to direct and evaluate personal learning initiatives.

Source: Country overview Ireland.

Figure 6. **Dominant structure of the learning outcome descriptions of the qualifications analysed**



Source: Country overviews.

([86]) https://www.qqi.ie//sites/docs/AwardsLibraryPdf/5M2145_AwardSpecifications_English.pdf

4.1.4. Balance between occupational and transversal learning outcomes and general knowledge subjects

Qualifications usually consist of different types of learning outcomes. Distinctions are usually made between occupational learning outcomes, transversal skills and general knowledge ([87]):

(a) learning outcomes are related to general knowledge and include languages, maths and history;

(b) transversal learning outcomes are relevant for a broad range of occupations and sectors and/or transferable into new environments. They are often referred to as core skills, basic skills or soft skills, the cornerstone for the personal development of a person.

(c) occupational learning outcomes are usually specialised and relevant within a specific occupation or broadly sector.

Country researchers assessed the distribution of types of learning outcomes in the qualification descriptions ([88]). Most initial VET qualifications or groups of qualifications have a strong focus on occupational learning outcomes. More precisely, an average of 64% of the learning outcomes included in IVET qualifications at EQF levels 3 and 4 focus on occupational learning outcomes. General subjects take up around 24% of the qualifications, and specifically labelled transversal learning outcomes account for only 12%.

Comparing EQF levels 3 and 4 reveals that qualifications at EQF level 3 usually have an even stronger focus on occupational learning outcomes than those at level 4; the latter tend to have more learning outcomes related to general knowledge. This does not mean that qualifications linked to EQF level 4 are less closely linked to the labour market. However, there seems to be a stronger need to include underpinning knowledge, general subjects and transversal learning outcomes, since these qualifications also often provide access to higher education (as discussed in Section 3.3).

([87]) Based on Cedefop (2017) and ESCOpedia: https://ec.europa.eu/esco/portal/escopedia/Cross-sector_skills_and_competences

([88]) This assessment is not based on quantitative data but mainly on the country experts' interpretation of qualitative descriptions.

Table 5. **Comparison of the division of types of learning outcomes in qualifications at EQF levels 3 and 4**

	General knowledge	Transversal learning outcomes	Occupational learning outcomes
EQF level 3	19%	9%	72%
EQF level 4	28%	13%	59%
Total average	24%	12%	64%

Source: Country overviews. Weighted averages based on the number of qualification types (31 for EQF level 3; 41 for EQF level 4).

Indicating a percentage for the distribution of types of learning outcomes is difficult because a sector or specialisation may have varying types of learning outcomes. For example, car mechanic qualifications and financial sector qualifications might belong to the same IVET qualification type and might differ considerably in the distribution of types of learning outcomes. However, some countries have clear national guidelines for distribution of learning outcomes. For example, Slovenia indicates the minimum standard of general knowledge for a specific level and qualification type ([89]). Also, Malta has an increasing share of sectoral skills with each NQF level (Box 19).

Since qualification descriptions are based on different standards, the distribution of types of learning outcomes varies between different qualification types:

(a) Luxembourg has a strong focus on occupational learning outcomes for both qualification types (at EQF levels 3 and 4; ID46, ID47); there is little mention of transversal and general knowledge learning outcomes. For the technician diploma at EQF level 4 (ID47), for example the technician in automotive technology qualification, communication in foreign languages and interaction with customers are the only non-occupation-specific competences mentioned in the description;

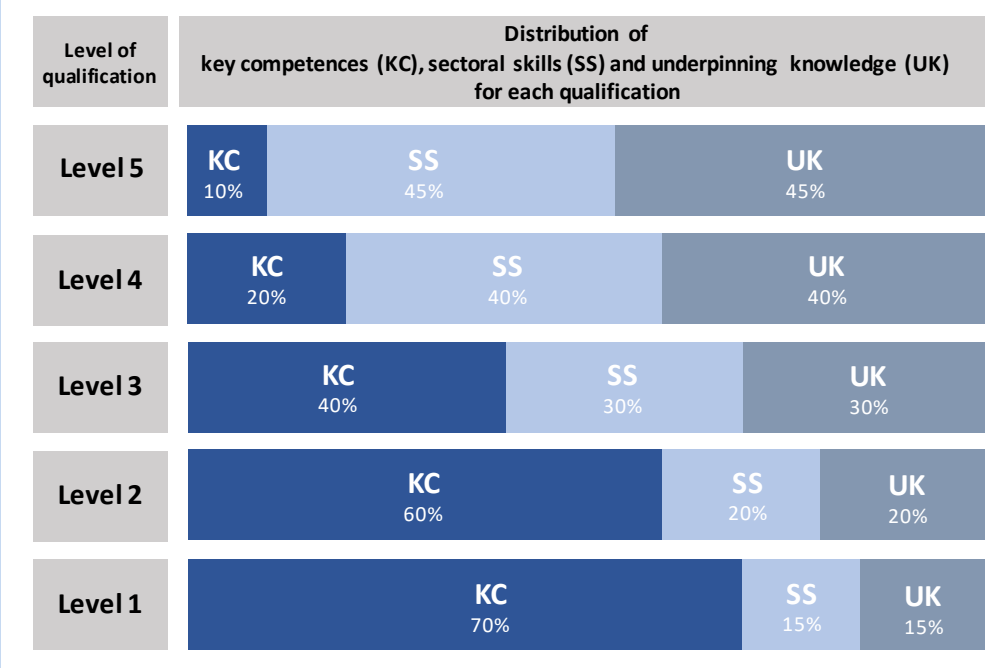
(b) a more balanced approach can be found in Belgium (Flemish Community), upper secondary vocational education (second year of the third stage) attestation at EQF level 3 (ID03). At this curriculum level, 10 of the 36 hours per week are devoted to general subjects (such as foreign languages), 24

([89]) The national framework curriculum for VET EQF level 3 educational qualification (ID62) has to encompass at least 30% of general education subjects and around 50% are occupation-specific. This can be further strengthened at school level that is responsible for learning outcomes of 20% of the curriculum.

hours are devoted to occupation-specific subjects and two hours are devoted to complementary subjects ([90]).

Box 19. **Distribution of types of learning outcomes in Malta**

In Malta, the EQF referencing report determines the balance between types of learning outcomes. It specifies the distribution of content in VET qualifications in terms of sectoral skills, underpinning knowledge and key competences. Learning outcomes need to reflect the weighting indicated.



Source: Country overview Malta based on National Commission for Further and Higher Education (NCFHE), 2016, p. 59.

The comparatively low shares dedicated to transversal learning outcomes in IVET qualifications, however, do not indicate general neglect. They may often be included in the occupation-specific subjects or modules, as shown by the following examples:

(a) in Belgium (Flemish Community), the upper secondary vocational education (second year of the third stage) attestation at EQF level 3 (ID3), has

([90]) Qualifications at EQF level 4 that provide access to higher education generally have an important share of learning outcomes related to general knowledge, as in the VET diploma of secondary technical education in Slovenia (ID 64) with 39.6% to 44.4% of hours devoted to general subjects (Pevec and Mali, 2002).

emphasised, in the occupation-specific subjects, transversal learning outcomes such as team work and critical thinking;

(b) Poland does not list transversal learning outcomes separately but includes them as part of the general and occupation-specific learning outcomes for the automotive vehicles technician, which belongs to the EQF level 4 qualification type 'vocational diploma: certificate of competence in the occupation' (ID59);

(c) another example is in UK-Scotland, where core skills, such as communication, numeracy, and information and communication technology, problem-solving skills and working with others should be integrated into different courses, teaching and learning programmes.

Box 20. **Transversal learning outcomes embedded in occupational learning outcomes: example from UK-Scotland**

The qualification design team, designing a qualification belonging to the national qualification group awards at EQF level 4 in UK-Scotland, must map the level of core skills required for entry courses, as well as the opportunities for the continued development of core skills when delivering the qualification. Lecturers should also seek opportunities to integrate core skills within their teaching and learning programmes. For example, in relation to the unit 'electrical principles', such opportunities may include, but not be limited to, the following core skills: communication, numeracy, information and communication technology, problem solving skills and working with others.

Source: Country overview UK-Scotland.

4.2. Comparing learning outcomes: focus on car mechanic qualifications

This analysis of qualifications will first illustrate the span and breadth of learning outcomes covered by car mechanic qualifications linked to EQF levels 3 and 4 in selected countries. It will then examine the transparency and comparability of qualifications. The overall aim of this exercise is to contribute to a methodology for comparing qualifications ([91]).

([91]) The comparison of VET qualification profiles has been a key topic in several recent Cedefop works. The project *The role of learning outcomes in supporting dialogue between the labour market and education and training; the case of vocational education and training* (2015-17; Cedefop, unpublished b) compared the content/profile of 10 vocational qualifications across 10 countries, using ESCO (and in one case O*Net) lists as a reference point. Bjørnåvold and Chakroun (2017) describe the outcomes of a related comparison with a wider geographic focus, comparing the content and profile of four vocational qualifications in 26 countries worldwide. A

This analysis, carried out as part of the case-study phase, included 15 qualifications from eight countries ([92]). Using the example of car mechanic qualifications, the case studies focused on one qualification at EQF level 3 and one at EQF level 4 in each country (except for Portugal, where no EQF initial VET level 3 qualification was available). The following reference points were used to compare the content and profile of car mechanic qualifications at EQF levels 3 and 4:

(a) ESCO ([93]) occupational profile 'vehicle technician' ([94]) and transversal learning outcomes ([95]);

(b) WSSS 'automobile technology' ([96]): WSSS are primarily designed as the reference point for the *WorldSkills* competitions; they establish the baseline for evaluations and reward of vocational performance, and thus aim at assessing the level of proficiency or excellence in a competitive setting ([97]).

Sections 4.2.1 to 4.2.4. summarise the key findings from the case studies. They first briefly introduce the qualifications studied, then focus on the mapping against ESCO lists and against WSSS, and finally present some observations.

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recently launched Cedefop project (*Comparing vocational education and training qualifications: towards a European comparative methodology*: *2017-20*) seeks to support the development of methodologies for comparison of national VET qualifications.

([92]) The following eight countries were selected for the case-study phase: Denmark, Ireland, Italy, Netherlands, Poland, Portugal, Slovenia and Switzerland.

([93]) ESCO is the multilingual classification of European skills, competences, qualifications and occupations – see: https://ec.europa.eu/esco/portal

ESCO describes occupations and knowledge, skills and competences of all sectors and levels relevant for 'build[ing] an integrated labour market across Europe' and for bridging 'the communication gap between the world of work and the world of education and training'. ESCO is organised in three interrelated pillars: the occupations pillar; the knowledge, skills and competences pillar and the qualifications pillar. The knowledge, skills and competences pillar, also referred to as the 'skills pillar', provides a comprehensive list of skills relevant for the European labour market. ESCO version 1.0 (ESCO v1) contains 13 485 skills. See: https://ec.europa.eu/esco/portal/document/nl/0a89839c-098d-4e34-846c-54cbd5684d24

([94]) http://data.europa.eu/esco/occupation/4ad4024e-d1d3-4dea-b6d1-2c7948111dce

([95]) http://data.europa.eu/esco/skill/7ee746cb-fded-47f5-9652-19ebebbce51b

([96]) https://api.worldskills.org/resources/download/8464/9050/9960?l=en

([97]) There are no indications on the related educational levels, though its use in competitions for young professionals suggests that the WSSS lists refer to ISCED 2011 levels 3 and 4 and EQF levels 3 to 4/5.

4.2.1. The car mechanic qualifications analysed in the case studies

A total of 15 car mechanic qualifications were analysed in the case studies (Table 6):

Table 6. **Qualifications analysed in case studies**

Country	EQF level	Title of qualification type	Title of car mechanic qualification
CH	**3**	Federal VET certificate	Car mechanic assistant
	4	Federal VET diploma	Car mechanic specialist
DK	**3**	VET certificate at level 3	VET certificate: passenger car fitter
	4	VET certificate at level 4	VET certificate: passenger car mechanic
IE	**3**	Level 4 certificate (major award)	Level 4 certificate engineering skills
	4	Level 5 certificate (major award)	Level 5 certificate motor technology
IT	**3**	Professional operator certificate	Motor vehicle repair operator
	4	Professional technician diploma	Engine vehicle repairing technician
NL	**3**	VET level 3 (MBO3) (Secondary vocational education, professional level)	Skilled car mechanic
	4	VET level 4 (MBO4) (Secondary vocational education, middle management level)	Technical specialist passenger cars
PL	**3**	Diploma of vocational qualification in (title of occupation): (3-year sectoral vocational school), full qualification	Car mechanic
	4	Diploma of vocational qualification in (title of occupation): (5-year technical secondary school), full qualification (*technikum*)	Automotive vehicle technician
PT	**4**	Double certification: secondary education qualification and professional qualification	Technician car mechatronic
SI	**3**	Final examination certificate (lower vocational education, two years)	Assistant in technology processes
	4	Vocational *matura* certificate (secondary technical education, four years)	Automotive service technician

Source: Case studies.

Four qualifications prepare graduates for working at assistant level or more closely related to semi-skilled work; graduates perform basic routine tasks in a partly autonomous way. This is the case for the EQF level 3 qualification in Slovenia and Switzerland and in Ireland for qualifications at EQF levels 3 and 4. Other qualifications analysed prepare for qualified/skilled work ([98]). The EQF level

([98]) In Denmark, a passenger car fitter (EQF level 3, approximately two and a half years) performs basic service on, and maintenance of, various systems, while a passenger car mechanic repairs, carries out maintenance and adjusts the various systems and parts (EQF level 4, additional two years of study). The learning outcomes build on each

3 qualifications generally offer access to further learning, but not to higher education; only in Denmark do they provide conditional access to higher education, but this is hardly used. EQF level 4 qualifications provide direct access to higher education, often limited to specific professional fields or higher education institutions. An exception is the professional technician diploma from Italy, which only provides access to further learning at the same level ([99]). The diploma of vocational qualification from five-year secondary technical schools (*technicum*) from Poland and vocational *matura* certificate from secondary technical education from Slovenia provide direct access to higher education ([100]).

In relation to the description of learning outcomes, the following similarities and differences can be observed ([101]):

(a) usually, the learning outcomes descriptions are defined by using knowledge, skills and competence (KSC). Except for Ireland and Portugal, learning outcomes tend to reflect the domains used in the NQF descriptors implicitly rather than explicitly;

(b) performance levels or levels of complexity tend to be expressed through a mix of different methods, often involving key words (such as 'simple', 'advanced', 'comprehensive'), action verbs ([102]), references to the degree of responsibility and autonomy, and contextualisation (such as stable or changing work context). References to the degree of responsibility and autonomy are used most often to express different levels of complexity; only Portugal and Slovenia use action verbs more extensively in descriptions. For the Swiss car mechanic qualifications, a simplified Bloom's taxonomy ([103]) on three levels, based on verbs, is used to define levels of complexity, autonomy and responsibility for each task to be learned.

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other. Defined by the same act, 25 learning outcomes cover the main course of the two qualifications; 15 learning outcomes are shared and 10 learning outcomes are specific for the passenger car mechanic at EQF level 4.

([99]) After passing a final year and a final State exam within vocational school, students can obtain an upper secondary education diploma (EQF level 4).

([100]) Table 8 in Annex 2 characterises the selected case study qualifications according to their currency in the labour market and for further learning

([101]) See Table 9 in Annex 2.

([102]) For a discussion on action verbs used for expressing different levels of performance and complexity in learning outcomes descriptions, see Cedefop, 2017.

([103]) Bloom's taxonomy provides a hierarchical categorisation of learning for the cognitive, psychomotor and affective domain – see Bloom et al., 1956; Dave, 1970; Anderson et al., 2001. For a discussion on this approach see Cedefop, 2017.

When looking closer at the learning outcomes descriptions for the car mechanic qualifications, the following distinguishing features for the levels emerge as most relevant:

(a) greater autonomy and responsibility/greater independence with regard to technical and/or transversal skills at EQF level 4 (for example Denmark, Ireland, Italy, Poland and Switzerland);
(b) learning outcomes become broader in scope, i.e. qualifications at EQF 4 cover a wider spectrum of KSC (for example Denmark, Poland, Slovenia and Switzerland);
(c) greater emphasis on communication with clients and supervising colleagues (for example Netherlands);
(d) greater management skills, customer relationship skills and entrepreneurial skills (for example Italy);
(e) greater complexity in diagnostic skills (for example Netherlands).

The differences between qualifications at these two levels are usually clearly reflected in the learning outcomes descriptions of qualifications (reported for Denmark, Italy, Poland, Slovenia, and Switzerland). In the case of Ireland and the Netherlands, the difference in levels can also be observed in the descriptions, although it is less marked than in the labour market.

Box 21. **Differences between car mechanic qualifications at EQF levels 3 and 4: examples from Ireland and the Netherlands**

Ireland has a distinction between the levels for entering the workplace at an introductory vocational level (with significant amounts of supervision) for the EQF level 3 qualification and entering the workplace to work independently (with general direction rather than significant supervision) for the EQF level 4 qualification. The distinct nature of each level is evident in the learning outcomes, although these cannot be compared directly because of the relatively low match of the engineering skills qualification to the field of car mechanics. For example, a learning outcome for the EQF 3 qualification states: ‘Demonstrate a moderate range of skills and tools used in an engineering context’ (QQI, no date a, p. 1) while a related learning outcome for EQF 4 states: ‘Demonstrate a broad range of workshop procedures currently utilised in the motor technology sector to include safe use of hand tools, power tools and test equipment’ (QQI, no date b, p. 2). Additionally, in Ireland qualifications holders are regarded by society as ‘fully qualified’ car mechanics, after successfully achieving the relevant qualification at the next NQF level (NQF 6/EQF 5). That qualification is generally achieved after completion of an apprenticeship.

The Netherlands has a clear distinction in the labour market between the two qualifications at EQF levels 3 and 4, with expectations of what a graduate should know and be able to do. However, descriptions in the qualification file do not clearly describe this distinction but show a more gradual difference in dealing with the complexity of core tasks and work processes. The focus group provided an example

of when qualifications require an ability to conduct diagnoses of the car problems and to use test equipment. However, the descriptions do not give details of which diagnoses and which test equipment the graduate needs to be able to master; this difference should set the boundary between the level 3 and 4 qualifications. This situation is partly due to the fact that to maintain relevance, the core tasks and work processes in the qualification files are described with a high level of abstraction. Curricula and assessment tasks would need to be analysed. Also, from a historical perspective, the skilled car mechanic qualification at EQF level 3 did not change that much, while the EQF level 4 qualification is more affected by changing technology.

Source: Case studies.

4.2.2. Mapping car mechanic qualifications against world skills standards specifications

The WSSS 'automobile technology' consists of five sections, comprising both occupation-specific and transversal KSC without explicitly distinguishing them. Each section is further structured into:

(a) knowledge and understanding;
(b) abilities.

The first two sections mainly refer to transversal KSC (work organisation and management, communication and interpersonal skills); the further three sections are occupation specific (electrical and mechanical systems, and their integration; inspection and diagnosis; repair, overhaul and service). In total, 61 KSC items are included in the WSSS for car mechanic.

The mapping against the WSSS consisted of determining, for each qualification, which learning outcomes described in the WSSS were covered in the qualification description ([104]). The median coverage for qualifications at both levels is 89%; the EQF level 4 qualifications (97%) is considerably higher than the EQF level 3 qualifications (67%) ([105]). The highest WSSS coverage can be found in Italy (EQF levels 3 and 4), the Netherlands (EQF level 4), Portugal (EQF level 4) and Slovenia (EQF level 4, vocational *matura* certificate). The lowest coverage has been identified for the EQF level 3 qualifications from Ireland, Slovenia and Switzerland. However, Ireland has no major award at EQF level 3 directly relating to car mechanics. Therefore, 'engineering skills' has been used. Slovenia refers to 'assistant in technology processes'. The four qualifications with the lowest

([104]) Tables 10and 11 (Annex 2) provide an overview of the coverage and detailed mapping against WSSS by the selected qualifications.

([105]) While EQF level 3 qualifications range from 23% to 100% of coverage, this span is noticeably smaller for EQF level 4 qualifications (ranging from 52% to 100% in coverage).

coverage all provide for semi-skilled work: Ireland (EQF levels 3 and 4), Slovenia (EQF 3) and Switzerland (EQF level 3).

WSSS sections are further structured into two subsections referring to:

(a) the individual needs to know and understand;

(b) the individual shall be able to (demonstrate their skill in these areas).

Most qualifications show little variation in the coverage along these two dimensions for items related to knowledge and understanding and for items related to demonstration of abilities. High coverage of knowledge and understanding generally goes along with high coverage of abilities. The EQF level 3 qualification from Switzerland and both the EQF level 3 and 4 qualifications from Ireland stand out in that they show a large (15 percentage points or more) difference in coverage between these two dimensions. The Irish and Swiss EQF level 3 qualifications have a higher coverage of the ability-related items compared to the items related to knowledge and understanding; however, the Irish EQF level 4 qualification has more knowledge and understanding components.

Looking closer at the difference between EQF level 3 and 4 qualifications identifies two groups of countries:

(a) those with smaller difference in coverage between qualifications (Denmark, Italy, Netherlands, Poland);

(b) those with significant differences in coverage between the two levels (Ireland, Slovenia and Switzerland) ([106]). These differences can be largely attributed to the WSSS area ‘electrical and mechanical systems, and their integration’.

Comparing the profile of the car mechanic qualifications, mapped to the WSSS, reveals a common core of these qualifications ([107]): A set of 18 WSSS items (out of 61) are included in at least 13 out of the 15 qualifications. They mostly belong to the two more transversal (out of five) WSSS sections: ‘work organisation and management’ and ‘communication and interpersonal skills’. At least 12 qualifications include half of the WSSS items (30 out of 61). This points to the existence of a relatively strong set of common core WSSS items across countries. A relatively small group of only four WSSS items is covered in eight or less out of the 15 qualifications. They are spread over the three more technical (as opposed to transversal) WSSS sections.

The mapping exercise also identified a list of learning outcomes included in national qualification descriptions but not covered in the WSSS list. Most additional learning outcomes mentioned, across countries and EQF levels, refer to two

([106]) Defined by a difference higher than 20 percentage points in coverage between EQF levels 3 and 4 qualifications (Table 10, Annex 2).

([107]) Table 12, Annex 2.

WSSS areas: work organisation and management, and communication and interpersonal skills. In the case of the Irish EQF level 4 qualification, which has the lowest coverage (52%) among EQF level 4 qualifications, the extensive list of additional learning outcomes adds perspective to the low WSSS coverage score. Also, the EQF level 3 qualification from Slovenia, which has the lowest coverage overall (23%), has an extensive list of additional learning outcomes ([108]).

4.2.3. Mapping car mechanic qualifications against ESCO knowledge skills and competence (KSC lists)

4.2.3.1. *Mapping against ESCO occupation-specific learning outcomes*

The European skills, competences, qualifications and occupations (ESCO) occupational profile 'vehicle technician' has a total of 65 items of knowledge, skills and competences (KSC items). To support the mapping exercise, these KSC items were grouped using the structure of the WSSS 'automobile technology': work organisation and management; electrical and mechanical systems and their integration; inspection and diagnosis; repair, overhaul and service ([109]).

The median coverage towards ESCO occupation-specific KSC is 75% and lower than that identified for the WSSS. The ESCO mapping has a higher median coverage for the EQF level 4 qualifications (82%) compared to the EQF level 3 qualifications (66%). While EQF level 3 qualifications range from 9% to 77% of coverage, this span is noticeably smaller for EQF 4 qualifications (ranging from 69% to 100% in coverage). This suggests more similarities between EQF level 4 qualifications across countries than among EQF level 3 qualifications.

When looking closer at the difference between EQF level 3 and EQF level 4 qualifications, the same two groups of countries can be distinguished:

(a) those with minor differences in coverage between EQF levels 3 and 4 qualifications (Denmark, Italy, Netherlands, Poland);
(b) those with a difference higher than 20 percentage points in coverage between qualifications at these levels (Ireland, Slovenia and Switzerland) ([110]).

([108]) Table 13 (Annex 2) offers an overview of these additional learning outcomes, tentatively structured according to the WSSS areas.

([109]) The section 'communication and interpersonal skills' was not used here because these items are included in the ESCO list for transversal KSC. ESCO's occupational profiles distinguish between essential and optional knowledge (K) and essential and optional skills and competences (SC). This study did not use that distinction.

([110]) This was defined by a difference higher than 20 percentage points in coverage between EQF level 3 and EQF level 4 qualifications. Ireland has no major award at

Comparing the profiles allows the identification of a set of 18 ESCO occupation-specific KSC items (out of 65) included in at least 13 out of 15 qualifications ([111]). Overall, 45% (29 out of 65) of KSC items are covered in at least 12 of the 15 qualifications. Eight KSC items were covered in six or less of the 15 qualifications.

4.2.3.2. *Mapping against ESCO transversal learning outcomes*

Unlike the WSSS, ESCO provides a separate list of transversal KSC, which was also used for the mapping of the 15 national qualification descriptions. The list of transversal KSC uses the following structure: application of knowledge (digital competences, health and safety, numeracy and mathematics, working environment), social interaction, thinking and language ([112]).

With the mapping of transversal KSC, the more marked differences between countries can be identified ([113]). Qualifications in three countries tend to have a relatively higher coverage of transversal KSC ([114]) for qualifications at both EQF levels (Italy, Poland and Switzerland). For the other group of countries (Denmark, Ireland, Netherlands, Portugal), the average coverage for both EQF level 3 and EQF level 4 qualifications is at or below the median coverage of 40%. Slovenia stands out because of its enormous difference in coverage between the selected EQF level 3 (12%) and the EQF level 4 (79%) qualification.

The area of digital competences is strongly represented within the ESCO list, but when mapping the national qualification descriptions, it is the area with the lowest average coverage (37%). The highest average coverage can be observed for the areas of health and safety (89%) and language (83%).

Despite the low coverage, the following set of KSCs appears in almost all qualifications descriptions: follow safety precautions in work practices; carry out work-related calculations; carry out work-related measurements; interact with

EQF level 3 directly relating to car mechanics so engineering skills was used. Slovenia used ‘assistant in technology processes’.

([111]) Tables 15 and 16 (Annex 2) provides a more detailed overview of the profile of car mechanic qualifications mapped against ESCO occupation-specific learning outcomes and common core of qualifications covered in the case studies.

([112]) Some changes have been made for this study: language is not included in the ESCO list of transversal skills and competences but listed separately; the ESCO list of transversal skills and competences includes attitudes and values, which were not used here for comparing learning outcomes of qualifications.

([113]) Tables 17 and 18 (Annex 2).

([114]) Defined as a coverage of higher than the median (40%) of coverage of the transversal KSC.

others; work in teams; follow environmentally sustainable work practices; mother tongue; manage time.

A set of KSCs can be identified that appear least in the qualification descriptions (each mentioned twice): computer programming copyright and licenses related to digital content; set up a firewall; set up a virtual private network; remove computer virus or malware from a computer; use back-up and recovery tools; make use of personal robots for practical support; operate handheld devices; solve technical problems; demonstrate intercultural competence. Except for the last item, they all refer to the ESCO domain of digital competences.

4.2.3.3. *Mapping against a combination of ESCO transversal learning outcomes and ESCO occupation-specific learning outcomes*

When combining the mapping of occupation-specific and transversal learning outcomes for the qualification, the median coverage across all 15 profiles is 54%, the median coverage for EQF level 4 qualifications is higher (67%) than for EQF level 3 qualifications (47%) ([115]). Median coverage scores are generally lower than in the WSSS mapping; this can partly be traced back to the fact that the ESCO transversal KSC include many items on digital competences with low coverage in the national qualifications.

4.2.4. Observations from the mapping exercise

When comparing the results from the WSSS and ESCO (combined) mapping, no clear pattern emerges. In some cases, qualifications with a high coverage in the WSSS mapping have a low coverage in the ESCO combined mapping, as is the case for the Portuguese EQF level 4 qualification (100% coverage in the WSSS versus 50% coverage in the ESCO combined mapping); a similar pattern can be observed for the Dutch EQF level 4 qualification. Only Ireland, Poland and Slovenia have WSSS and ESCO mappings with similar results in coverage ([116]). A direct comparison between WSSS and ESCO occupation-specific mappings (leaving out the ESCO transversal KSC) would lead to more similarities in coverage across the profiles. Such a comparison would, however, disregard the fact that WSSS already includes transversal skills.

Although both reference points are useful for identifying a common core of qualifications, the mapping exercise and the discussions of case studies with national stakeholders identified several limitations. The mapping exercise is based on interpretations of terms and concepts used in the reference points by country

([115]) Table 19 (Annex 2).

([116]) Table 14 (Annex 2) illustrates these observations.

researchers and national stakeholders. While ESCO lists are available in various languages, WSSS are only available in English and this provides an additional layer of complexity for the exercise. The learning outcomes included in ESCO occupational profiles are not presented in a structured way (this project used the structure provided by the WSSS); this causes difficulties when trying to identify whether these items are included in qualification descriptions.

It is sometimes difficult to distinguish between occupation-specific and transversal KSC: in several cases they are not separately described in qualification documents and the ESCO occupational profile includes items that could also be considered as transversal skills. Also, the reference points do not allow for weighting the items. Although ESCO occupational profiles include a distinction between essential and optional items, the systematic underpinning of this classification is not clear ([117]). For comparing qualifications, it would be necessary to indicate the importance of learning outcomes in the overall context of the qualification.

The extent of coverage of learning outcomes does not necessarily indicate differences between qualifications linked to EQF level 3 and 4. Aspects related to the vertical dimension of learning outcomes are crucially important for making distinctions based on different levels but the reference points do not reflect the vertical dimension. For example, the essential skill/competence 'maintain vehicle records' (explanation: maintain vehicle records by accurately recording service operations and repairs), included in the ESCO occupational profile, can be included in EQF level 3 and 4 qualifications; however, holders of these qualifications can usually carry out this task at different performance levels or different levels of autonomy and responsibility, and this difference cannot be made visible in the mapping exercise.

4.3. Emerging issues

The results of the analysis of designing IVET qualifications and the descriptions of learning outcomes clearly point to a strong influence of labour market stakeholders in many countries. In these cases, the learning outcomes are described and structured with relationships to work tasks and processes. However, some IVET qualifications also seem to be more strongly linked to education delivery. Nevertheless, most IVET qualifications at EQF levels 3 and 4 include both occupation-specific and transversal learning outcomes, albeit in different

([117]) For example, 'carry out repair of vehicles' is classified as essential skill/competence, while 'perform minor vehicle repairs' is indicated as optional skill/competence.

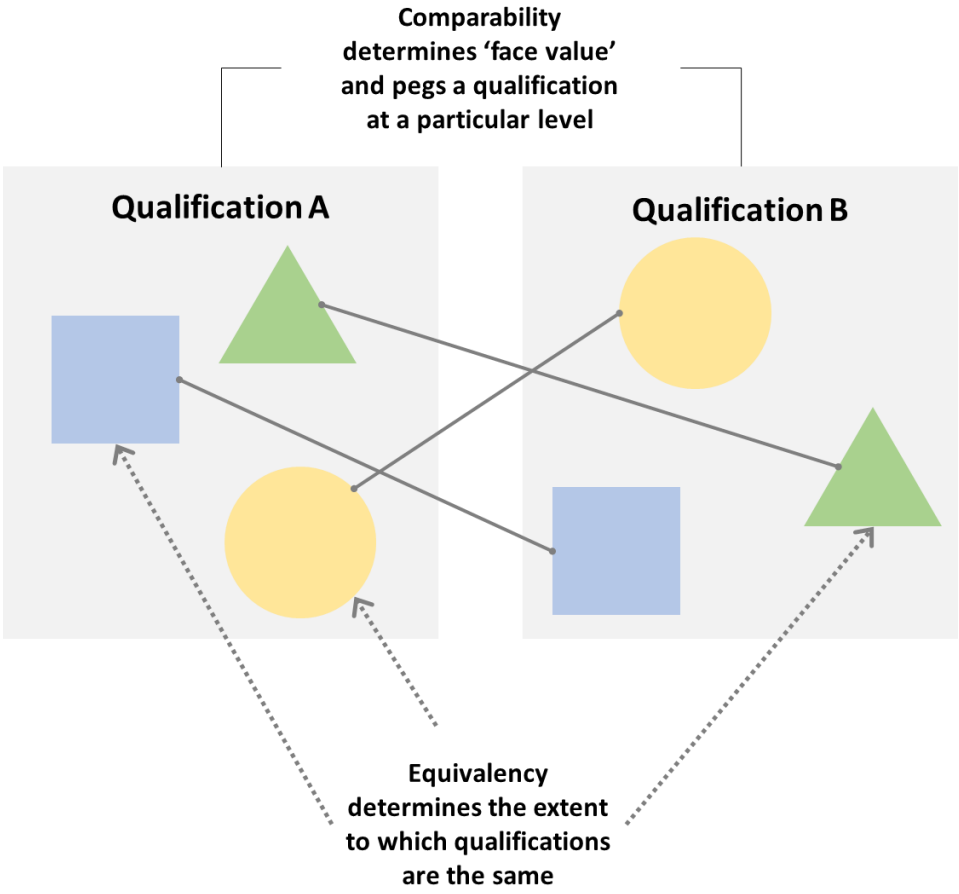
proportions. Comparing qualifications linked to EQF levels 3 and 4, those linked to EQF level 4 have a higher share of transversal learning outcomes and underpinning knowledge and general subjects, aspects that are important for gaining access to further learning and particularly to higher education. The distribution of types of learning outcomes apparently indicates something about the specific character of a qualification and so is important when comparing qualifications.

The evidence also shows that learning outcomes descriptions are increasingly used for describing vocational qualifications ([118]) and this increases qualification transparency. However, a challenge for the comparison of qualifications can be found in the differing levels of detail provided (broad descriptions when referring to the overall qualification, more detailed descriptions when referring to modules, units or courses), the structure of the descriptions, and the expression of the horizontal and vertical dimensions in learning outcomes statements. The case study reference points, ESCO and WSSS, only partially help resolve these issues: they can be used to indicate a common core of learning outcomes of specific qualifications but they do not show differences between qualifications linked to different levels. Also, a qualification is more than a sum of learning outcomes listed in a document. Although the descriptions matter (such as the verbs and adjectives used, the method applied to indicate different performance levels and levels of autonomy and responsibility, the detail and depths of the descriptions), not everything can be described with learning outcomes. To understand and compare qualifications, information about their purpose and currencies/value on the labour market and for further learning (as discussed in Chapter 3) need to be discussed together with the scope and types of learning outcomes included in qualifications.

The case study analyses of car mechanic qualifications also raised the question of how much information is needed to compare qualifications. When comparing qualifications and their learning outcomes, it is important to clarify the purpose of the exercise and to distinguish between comparing qualifications and defining their equivalence: Morrow and Keevy (2006) note that the determination of ‘equivalence’ and ‘comparability’ of qualifications ‘are two separate processes that have different purposes. Equivalence is required when an individual requires his or her qualification to be recognised towards another qualification within or outside the country of origin. Comparability, as a broader, less intensive process, is sufficient to facilitate transnational recognition of qualifications.’ (Morrow and Keevy, 2006, p. 28).

([118]) See also Cedefop, 2016.

Figure 7. **Comparability and equivalence of qualifications**



Source: Morrow and Keevy, 2006, p. 29.

While the establishment of equivalence requires a detailed evaluation of qualifications and their learning outcomes, straightforward criteria can determine the comparability of qualifications. Morrow and Keevy propose the following set of criteria (Morrow and Keevy, 2006, p. 31):

(a) purpose: the purpose of the qualification as described by its purpose statement;
(b) exit level and the broad outcomes of the qualification;
(c) assessment criteria: statements that guide assessment of the qualification;
(d) credits: time taken to complete the qualification (including the time spent during assessment, preparation, and tuition, and even in the workplace) and which is directly linked to several credits as defined on the particular framework;
(e) level: the level at which the qualification is registered on the particular framework as described by the level descriptors of that framework;

(f) quality assurance: related to the status of the awarding body. It refers to one or more quality assurance bodies that oversee the provisioning of the qualification;
(g) articulation: to other qualifications on the same or different levels of the framework;
(h) international comparability: the extent to which international comparability was considered during the development of the qualification.

CHAPTER 5.

Initial VET qualifications linked to EQF levels 3 and 4

In most countries, the European qualifications framework (EQF) implementation triggered the development of NQFs based on learning outcomes. Qualifications were levelled as part of or closely linked to NQF development and the EQF referencing process. Chapter 5 discusses levelling procedures, principles and methods used in levelling initial vocational education and training (IVET) qualifications as well as the impact of levelling decisions. It also discusses the strengths and weaknesses of levelling as revealed in interviews with national stakeholders, highlighting emerging issues.

5.1. Levelling procedures

5.1.1. Differing levelling procedures for formal qualifications and those outside the formal system

Before developing a learning-outcomes-based NQF, all countries had some kind of implicit qualifications levels, with qualifications in formal education and training, including IVET, mostly regulated. The (existing) qualifications and types of qualifications from formal education and training were included. In the course of implementation, some countries have opened up their frameworks to include qualifications awarded outside regulated education and training and awarded by labour market stakeholders and private adult learning providers. This is already the case in the Netherlands, Poland, Slovenia and Sweden; in some countries discussions are under way or actions planned. Countries have designed separate procedures for levelling, including and quality assuring qualifications awarded outside formal education and training. For example, the Netherlands and Sweden distinguish between levelling procedures for public or State-regulated qualifications and those outside such regulations. In Slovenia, State-regulated qualifications (educational qualifications and NVQs) are designed, awarded and levelled as defined in sectoral legislation as part of the accreditation process of programmes and qualifications assessment catalogues. The Slovenian

qualifications framework (SQF) Act defines the procedures and quality criteria for inclusion of non-regulated supplementary qualifications in the SQF ([119]).

Box 21. **State-regulated qualifications and non State-regulated ones levelled to EQF levels 3 and 4**

The Netherlands differentiates between State-regulated qualifications and those not State-regulated. The State-regulated qualifications are levelled *en bloc* and qualification type per education sector (general education, VET, higher education); the non State-regulated qualifications are levelled individually by applying for levelling at the national coordination point (NCP) NLQF. Qualifications and providers of those qualifications have to fulfil a number of quality criteria.

Sweden uses different methods and procedures for the levelling of State-regulated and other qualifications. The government decides on levelling of qualifications within the formal education system. Outside the formal education system, the national agency for higher vocational education (MYH) has the responsibility to level qualifications. Stakeholders may apply to the agency for levelling a qualification that the Swedish government does not regulate through the public education system.

Source: Country overviews.

5.1.2. Levelling qualifications in practice: the stages

Some countries have distinct levelling procedures but others have no identifiable levelling process. In the latter cases, levelling usually occurs during developing, revising or accrediting a qualification. This often applies for State-regulated initial qualifications from the formal learning context (general education and VET). Higher education qualifications are levelled in the design and accreditation process in line with the three cycles of qualifications frameworks in the European higher education area (QF-EHEA).

The few countries that map and level individual IVET qualifications, and have defined procedures of levelling, generally do this in the following stages. A dedicated body:

(a) receives a request for inclusion and levelling of a qualification into the NQF;
(b) reviews the request for levelling;
(c) develops the recommendation on the level;
(d) approves the level and publishes the decision.

Box 23 shows how Austria proceeds through these four stages.

([119]) Slovenian qualifications framework Act (see Articles Nos 6, 7 and 8): http://www.uradni-list.si/1/content?id=124645#!/Zakon-o-slovenskem-ogrodju-kvalifikacij-%28ZSOK%29 (in Slovenian).

Box 22. **Mapping existing formal qualifications to NQF levels in Austria**

Austria's NQF Act (Article 8) outlines the procedure for mapping formal qualifications:

- in a first step, the body responsible for a formal qualification (such as Federal ministry or Länder government) hands in a request for the mapping of a qualification to the EQF NCP. According to the NQF Act (Article No 8.1), the mapping request must include a proposal for a specific level as well as all relevant information and materials necessary to assess the request. A template has been provided for submitting levelling requests as well as guidelines to support the bodies;
- the NCP carries out a formal and content-related verification of the request for qualification mapping. The NCP must involve the NQF advisory board and – if necessary – experts with specialist knowledge in relation to the qualification (type);
- the NCP processes the mapping request and sends its decision, together with the statement of the NQF advisory board and – if applicable – statements of consulted experts with specialist knowledge, to the NQF steering group. At the end of this step, the NQF steering group receives the mapping decision and can lodge an appeal;
- if the NQF steering group does not object, the NCP must publish the qualification in the NQF register ([120]).

Source: Country overview Austria.

5.2. Principles and methods

Section 5.2 first explores the main principles used and then analyses in more detail the methods applied for levelling IVET qualifications linked to EQF levels 3 and 4.

5.2.1. Main principles used in levelling procedures

Some countries explicitly define levelling principles and present them in guidelines or manuals. In Austria, for example, where mapping requests have to be submitted, an NQF manual has been issued to support applicants in this process. The manual includes several principles that need to be considered.

([120]) https://www.qualifikationsregister.at/en/public/qualification-search/?qualType=30201&searchstring=

Box 23. **Principles applied in the levelling process in Austria**

The following levelling principles are presented in the Austrian EQF referencing report (BMUKK and BMWF, 2013, pp. 64-65) and the NQF Manual (NKS, 2016, pp. 21-23):

- qualification definition: for the mapping procedure, specific requirements related to qualifications are set. The NQF follows the EQF's definition of qualifications ([121]). The assessment procedure and the evidence of a qualification issued to holders of a qualification (*Qualifikationsnachweis*) form key aspects of a qualification. For these elements, the NQF manual sets certain minimum requirements that distinguish qualifications from non-qualifications. If they have been fulfilled, the qualification is NQF compatible and can be assigned (NKS, 2016, p. 9);
- basis for mapping: the basis for mapping formal qualifications is valid legal documents (laws, regulations, decrees, ordinances);
- learning outcomes: qualifications are to be assigned based on learning outcomes, which need to be described in a transparent and coherent way in the mapping-request template;
- the NQF level descriptors refer to qualifications and not to individual biographies;
- for the mapping of qualifications, only the learning outcomes included in the qualification (standard) are relevant: Learning outcomes that might be achieved following the awarding of this qualification (such as in professional practice) are not to be considered in the levelling decision;
- the best-fit principle is used. All three dimensions (knowledge, skills, competence) are of equal importance. Also, fields of learning or work are considered as equal;
- qualifications are allocated to NQF levels based on the NQF level descriptors.

Source: Country overview Austria.

Usually, a country does not explicitly state the principles of levelling. However, two particular principles could be identified across countries:

(a) the classification principle (by type of qualification or individual qualifications);

(b) the fit principle (best fit or full fit).

5.2.1.1. *Classification principle*

When discussing the allocation of qualifications to NQF levels, countries often distinguish between allocating groups of qualifications (usually qualifications belonging to the same type) or individual qualifications.

([121]) The EQF defines a qualification as the formal outcome of an assessment and validation process that involves a competent body determining that an individual has achieved learning outcomes that satisfy standards.

Box 24. **Allocation of IVET qualifications to national levels linked to EQF levels 3 and 4 by type**

In Portugal, the level descriptors of the EQF have been applied to the NQF while matching the existing national qualification structure as a whole; existing types of qualifications were classified to a level on the NQF. To ensure that the learning outcomes of individual qualifications match the level descriptors associated with its level, the contents and learning outcomes of IVET qualifications are continually updated by sector qualification councils.

Slovenia has well-defined VET qualification types by legislation. Additionally, national guidelines have been drafted to ensure consistency across qualifications belonging to the same type of qualifications across economic sectors. This includes guidelines such as the minimum standards of general knowledge subjects and work-based learning (including in the company) per qualification type ([122]).

Source: Country overviews.

Individual qualifications are also either allocated directly or through qualification-type specifications, if they exist. As part of the NQF development, three countries (Croatia, Greece and UK-Scotland) have defined explicit qualification-type specifications as a basis for inclusion and levelling of qualifications.

Some countries may also adopt a hybrid approach (using both methods, as in Austria and Germany) or adjust their approach throughout the process as in Switzerland.

A national consensus was reached about the overall approach to levelling IVET in Denmark as illustrated in Box 28. Also in Poland, initial vocational and technical qualifications are foreseen to have levels 3 and 4 respectively. However, they can be assigned a higher level, if duly justified and supported by the evidence of comparison of learning outcomes with level descriptors.

([122]) *Izhodisca za pripravo izobrazevalnih programov* (guidelines for VET programmes).

Box 25. **Allocation of IVET qualifications to national levels linked to EQF levels 3 and 4 in Austria, Germany and France**

The Austrian NQF is not considered an accreditation instrument for individual VET qualifications, since its main aim is to improve transparency and comparability of qualifications. After considering available resources, Austria does not plan to submit a mapping request for each apprenticeship qualification nor each VET school or college's curriculum. In a first phase of NQF allocation, mapping requests are submitted for exemplary qualifications, i.e. those apprenticeship qualifications and school-based VET qualifications that represent the system well. Formal qualifications linked to EQF level 4 are levelled by using a combined approach: mapping requests were submitted for some individual qualifications (for 10 apprenticeship qualifications and for five qualifications from schools for intermediate vocational education) ([123]), but the mapping decision applies to all qualifications belonging to the respective qualification type. All individual qualifications belonging to apprenticeship qualifications are linked to EQF level 4, as are qualifications obtained in intermediate vocational schools lasting three to four years. VET college school-leaving certificates (*Reife- und Diplomprüfung der berufsbildenden höheren Schulen*, 5 years) are referenced to EQF level 5. Very few other qualifications based on one- or two-year programmes from vocational schools are not included in the NQF.

When developing the NQF in Germany, qualifications belonging to four pilot sectors (metal/electro – including car mechatronics, health, IT, and trade) were allocated to the German NQR (DQR) levels on an individual basis within the respective working groups. After the pilot phase, IVET qualifications were levelled by qualification type ([124]).

In France, diplomas and degrees legislated and awarded by French ministries and issued on behalf of the State are allocated automatically by type of qualification, while others are allocated individually on demand. This latter category includes qualifications awarded by public or private bodies in their own name, such as higher education institutions, chambers, and private education providers; and sector-specific or industry-level qualifications (*certificats de qualification professionnelle*, CQP).

Source: Country overviews Austria, France and Germany.

([123]) These individual qualifications are listed here: https://www.qualifikationsregister.at/en/nqr-register/

([124]) Information on qualifications (types) included in the German NQF is available at: https://www.cedefop.europa.eu/files/germany_-_european_inventory_on_nqf_2018.pdf

Box 26. **IVET qualifications included in NQFs in a step-by step approach in Switzerland**

Switzerland has established two sectoral qualifications frameworks:

- one encompassing vocational and professional education (NQF-VPET);
- a separate one for qualifications in Swiss higher education (NQF CH-HS).

The NQF-VPET became formally operational on 1 October 2014. At the start of NQF-VPET implementation, single qualifications were assigned NQF-VPET levels. However, experience has shown that most qualifications of a given type are assigned to the same level. Since summer of 2016, professional organisations have two options: applying for simplified referencing of qualifications or seeking individualised referencing of qualifications. For simplified assignment of levels, qualifications are assigned according to a standard level for a type of qualification, proposed by the Swiss State Secretariat for Education Research and Innovation (SERI) ([125]). This reduces workload for the professional organisation submitting the application. A professional organisation can request an individual levelling of a qualification if it feels that a specific qualification might be assigned higher levels within the NQF-VPET. In this case levelling is based on learning outcomes of each qualification description and takes into account the specifics of each profession. Close cooperation with all stakeholders is required to reach a consensus on a level for a specific qualification. By January 2019, 474 of roughly 700 formal vocational and professional qualifications had been attributed levels.

Source: Country overview Switzerland; Cedefop, 2019c.

5.2.1.2. *Fit principle*

The best-fit principle was introduced as an essential concept for EQF referencing procedures. 'Its distinguishing feature is the acceptance that perfect-fit is probably not possible, and some judgement or approximation is necessary to make a link and solve a problem. In the case of matching NQF and EQF level descriptors, the concept of best-fit requires a common judgement from a range of stakeholders so that there can be confidence in the outcome of the approximation. It is therefore useful to consider best-fit as a decision that is based on collective professional judgements of stakeholders.' (European Commission, 2013). Similarly, levelling approaches can take the best-fit principle into account. NQF levels are often

([125]) SERI proposes a standard reference level for each type of a qualification:
(a) Federal certificate of vocational education and training (two-year VET programmes) – level 3;
(b) Federal diploma of vocational education and training (three- and four-year VET programmes) – level 4;
(c) Federal diploma of higher education (Federal professional examination) – level 5;
(d) advanced Federal diploma of higher education (Federal professional examination) – level 6;
(e) advanced Federal diploma of higher education (formal study programme) – level 6.

understood as corridors and not as exact lines; qualifications allocated to the same level do not necessarily need to be similar, but they can be considered as comparable in terms of level of learning outcomes achieved. However, it is also possible to use the full-fit principle. For example, this could be the case when qualifications are developed or revised to fit the requirements described in NQF level descriptors.

Most countries included in this study applied the best-fit principle for levelling qualifications. The example from Hungary illustrates this approach.

Box 27. **Allocation of individual IVET qualifications to national levels linked to EQF levels 3 and 4 in Denmark**

Denmark has many trade committees responsible for VET qualifications. Each trade committee is responsible for the levelling of the IVET qualifications within their own area of responsibility using a guidance note from the Ministry of Education. For example, the Educational Secretariat for Industry has responsibility for the car mechanic qualification. Afterwards, the ministry formally approves the levelling. Thus, each IVET qualification has (in principle) been levelled individually. However, this process did not necessarily take a very long time. There are almost 50 committees and around 100 IVET qualifications (journeyman certificate), so the workload has been placed on many shoulders. Also, Denmark took a pragmatic approach for levelling qualifications. The trade committees and the Ministry of Education had agreed in advance that all IVET qualifications should be levelled at level 3-4 and, in a few cases, at level 5. This made the levelling process much less complicated.

Source: Country overview Denmark.

Box 28. **Use of best-fit principle in Hungary**

In Hungary, competences of VET qualifications had to be transcribed into Hungarian NQF (HuQF) learning outcomes. Learning outcomes were then semantically compared with HuQF descriptors to identify the descriptor which best describes the given learning outcome. In case of ambiguity, the authorities applied counter-verification analysis. This approach revealed that levels of learning outcomes vary within a qualification. After applying the best-fit principle, experts could also consider the different weight of competence elements when proposing the level of the qualification.

Source: Country overview Hungary.

5.2.2. Levelling approach and methods used

Although the EQF referencing reports or other NQF related documents do not always describe the methods applied, the following general approaches and methods can be identified:

(a) technical or linguistic analysis;

(b) contextual matching;
(c) levelling as part of the qualifications design or renewal process.

5.2.2.1. *Technical or linguistic analysis*

This compares qualifications or qualification-type descriptors with NQF level descriptors and allocates qualifications or types of qualifications based on technical or linguistic matching.

When using this approach, learning outcomes descriptions of qualifications, qualification types and level descriptors provide the basis for levelling qualifications. The example from Poland illustrates this approach (Box 30).

Box 30. **Matching learning outcomes of qualifications with NQF level descriptors in Poland**

Poland bases levelling on comparison of learning outcomes with the Polish NQF (PQF) level descriptors (both universal and specific for VET) ([126]). The Polish method of levelling resulted from a pilot levelling of 413 Polish VET qualifications (formal and non-formal) held in 2012-13. The Educational Research Institute conducted the pilot levelling. Some 14 teams of sectoral experts compared qualification learning outcomes with PQF level descriptors. There are five stages of levelling:

- analysis of completeness of information;
- analysis of learning outcomes;
- identification of key learning outcomes;
- levelling via best-fit method;
- documentation of final decision.

Source: Country overview Poland.

Although several countries use this levelling approach, no specific methods can be identified for conducting the analysis. Some countries, however, have more detailed information about the approaches:

(a) provision of templates or other supporting material: Austria uses a template for preparing and submitting mapping requests, supports linguistic analysis, and shapes the necessary evidence on matching of learning outcomes of qualifications with NQF level descriptors. One section of the template asks for the qualification's description. Information must be provided on the learning outcomes achieved by holders of the qualification. The qualification's profile must be presented (such as knowledge, skills, competence) as well as the sources used for the description (such as legal regulations). Another section

([126]) For more information see: Poland: European inventory on NQF 2018 at: https://www.cedefop.europa.eu/en/publications-and-resources/country-reports/poland-european-inventory-nqf-2018

requires justification of the mapping request (allocating the qualification to a specific level);

(b) importance of key words for matching learning outcomes of qualification with level descriptors: in UK-Scotland, the NQF level descriptors are designed to allow broad comparisons between the learning outcomes (of a qualification or unit). An important part of the levelling process is identifying the distinguishing features between levels and key words for matching learning outcomes of qualifications with NQF level descriptors in areas such as 'familiar or unfamiliar situations' and 'supervised and independent working'. The range of knowledge can also be a useful indicator: learning at a lower level often involves a limited range of knowledge, while learning at a higher level requires a wide range of knowledge and skills. There is a need to consider whether the words used suggest a particular level of skill and whether there are other indicators of complexity in the learning outcomes;

(c) comparing learning outcomes of qualifications with neighbouring NQF level descriptors or qualifications linked to these levels: Hungary's first step was transcribing competences of national vocational qualification register (NVQR) qualifications into HuQF learning outcomes. Learning outcomes were then compared with HuQF descriptors. This comparison was based on: content analysis of related documents ([127]), using analysis of official and legal documents to regulate general education or VET training from the aspects of HuQF; semantic analysis of qualification descriptions, mapping the outcome features and the requested knowledge areas of the qualification to the level descriptors of the HuQF for assessing the correspondence of linguistic (semantic) conformity; counter-verification, comparing the learning outcomes of qualifications to the descriptors of neighbouring HuQF levels (one level higher and one level lower) for identifying the distinctive features and assessing the correspondence of definite linguistic (semantic) conformity;

(d) Slovenia classified qualifications by type but, to confirm the suitability of the classification, a three-member expert group randomly chose three or four examples of qualifications for each type ([128]). The qualification's learning outcomes were compared with both the descriptors of the respective NQF level and similar qualifications at the same, lower and higher levels ([129]).

([127]) For example: the description of secondary school-leaving examination requirements and the features of the evaluation and assessment system reveal that the former can be considered optimal requirements consistent with the description of EQF/HuQF level 4.

([128]) See Logaj et al., 2014.

([129]) See Skubic Ermenc et al., 2016.

5.2.2.2. *Contextual matching*

Qualifications are understood as a social construct and the outcome of a social dialogue. A social or political approach is often used in levelling qualifications, considering how qualifications are regarded at national level: their currency in the labour market, for further education and in society (Chapter 3), can be explored by conducting empirical research, analysing available data or by directly consulting stakeholders. This approach is sometimes called 'social analyses' (European Commission, 2013, p. 49). Context that might inform levelling decisions may include information on access rights to further education, arrangements for progression and recognition practices, information on the system in which the qualification (type) is embedded ([130]), how it is related to similar qualifications from other countries ([131]), input factors, and relevant links to occupations and the labour market. Legal regulations or political issues might also play a role (such as assigning to the same level all qualifications based on the same legal regulation or covered by the same collective bargaining agreement).

The research conducted for this study confirms that qualifications are frequently allocated to NQF levels based on contextual factors, particularly stakeholders' views on their currencies: the importance of the qualification for the labour market, potential for further learning pathways and traditional status and position in society and among citizens.

The following examples show that although learning outcomes are the central element in the levelling of qualifications, other so-called contextual factors, which might be political, social, cultural and/or pragmatic, also inform the levelling decision.

All countries had a broad range of stakeholders involved in the levelling process. In countries with no or a limited culture of stakeholder involvement, the NQF had to bring them together; in others new structures were developed (for example, Malta set up sectoral councils). Depending on national traditions and structures, different types of stakeholder are important in the levelling process. In almost all countries, the most frequently mentioned stakeholders include the social partners and sector-level representatives; also important are experts on vocational education and training in different economic sectors. The other group of stakeholders with significant involvement in all countries are those stakeholders

([130]) Specific qualification types could have the role of an anchor qualification, playing a significant role in the national qualifications context, such as upper secondary school-leaving certificate providing access to higher education.

([131]) There may be some cross-national influences on levelling qualifications. An example could be levelling qualifications/types considered as similar, such as general education school-leaving certificates and master craftsperson qualifications.

from the education system, including education providers, policy-makers and supporting agencies. The third group of most important stakeholders are various government institutions, including the ministers responsible for education, labour market or economy. Regional authorities have an important role in some countries. More than half of the countries have special coordination committees responsible for the levelling. Five countries (Bulgaria, Estonia, Germany, Iceland and Slovenia) also involve learner representatives (such as student unions).

Box 29. **Contextual factors: Italy**

To demonstrate a clear link between the existing Italian qualifications and the EQF descriptors, the referencing process included a specific phase dedicated to a critical analysis of border-line qualifications (when it was not possible to make a clear match based on learning outcomes). This phase used additional contextual factors:

- the qualifications structure, its nature (general, academic, work-oriented) and usability;
- the connections (in terms of links and progressions) with the other qualifications;
- the position of the qualification within the overall system as specified in norms (in terms of aspects such as access requirements and length);
  the outcomes of the referencing process in other countries for similar qualifications;
- the results of the referencing process of other systems, such as higher education qualifications (for levels 6-8).

Source: Country overview and case study Italy.

However, countries have different historical practices of involving stakeholders; some countries (such as Austria, Germany and Switzerland) have a strong tradition of stakeholder involvement, while others have had less involvement. For example, labour market stakeholders in Croatia have little interest in participating in developing and levelling qualifications. In Lithuania, the lack of expertise and resources of some stakeholders, such as trade unions and professional organisations, results in their underrepresentation in these processes. In Iceland, upon publication of the framework in 2013, the stakeholder groups, as well as students who were not involved in the original process, contested the levelling. In 2014-16, the EQF national contact point (EQF-NCP) (now moved from the Ministry to the Icelandic Centre for Research) embarked on extensive consultation with all key stakeholder groups on revising the framework. This resulted in publishing a revised framework in October 2016.

Qualifications can be distinguished based on their currency for the labour market and stakeholders frequently mentioned the labour market value of qualifications as a contextual factor informing levelling decisions. This included

Austria, Croatia, Denmark, France, Hungary, Luxembourg, Portugal, Switzerland and the United Kingdom (England, Wales, and Northern Ireland).

Some countries have specific (political) objectives connected with the NQF that enhance parity of esteem between VET and general education. They consider the labour market value of VET qualifications (including the rights and entitlements of holders of qualifications on the labour market) as well as labour market needs:

(a) in Luxembourg, an objective of the NQF development was to make explicit that vocational qualifications should be considered as on a par with general qualifications, which overturns certain long-standing beliefs in society. In practical terms, general qualifications, such as the upper secondary general education school-leaving certificate, were placed on the same level as the technician's upper secondary diploma (EQF level 4); similarly, the master craftsman's diploma (at EQF level 5) is classified not only as higher than the upper secondary school-leaving certificate but also as being on par with the advanced technician's diploma (also EQF level 5);

(b) Switzerland's main goal in joining the EQF referencing process was to give more visibility and ensure transparency of Swiss PET (professional education and training) qualifications (normally EQF levels 5 to 8) in the job and education markets and transnational mobility. VPET qualifications are set up and updated by always looking at the needs of the job market and the shape of workplace settings and work processes (SERI, 2015). In this sense, contextual factors are implicitly always present. The prestige and contractual power of each professional organisation (awarding body) also play a relevant role. These factors, beyond the limits of linguistic analysis, are implicitly considered and resulted in proposing the allocation of some qualifications to a higher level; this occurred with the VET diploma in the ICT sector, allocated to level 5, and in the PET, for the advanced Federal diploma of higher education for finance controller, positioned at level 8 of the NQF VPET);

(c) Portugal set the level of double certifications (EQF level 4) one level above the upper secondary general education qualifications that prepare for higher education (EQF level 3). This was done because these qualifications include both general education and practical skills, as opposed to only general education. Behind the decision is the need to improve the prestige of professional education and training in Portuguese education, which is traditionally perceived negatively by students and their parents. Setting the level of double certifications higher than upper secondary general education should emphasise the importance of secondary professional education and their labour market currency.

Some countries use empirical analyses for identifying the labour market value of qualifications and informing levelling decisions:

(a) France uses studies forecasting the evolution of jobs and required competences to determine levels;
(b) Hungary, when deciding on the qualification level, considers empirical analyses related to the labour market value of qualifications (such as job advertisement, graduate career tracking system, employment and labour market research).

The currency for further learning is also considered in some countries (such as Austria, Iceland, Latvia and Lithuania) as well as the perception of VET in society in general (such as Switzerland). As discussed in Chapter 3, the social status of IVET qualifications is closely linked to their currency on the labour market and/or the possibilities the qualification offers to continue learning at higher education levels. However, the extent to which a qualification provides access to higher education often seems to be used as indication for informing levelling decisions.

When designing or reviewing qualifications, countries look across borders; for example, Slovenia looked at comparable qualification in at least three other countries when designing qualifications and this might also lead to better comparability of qualifications. In Austria, the template for issuing mapping requests includes a section in which the qualification should be considered in relation to other qualifications (and their NQF levels) from the same or a similar sector or area or additional information can be provided (if applicable and available) related to the comparison with similar qualification types from other countries. In Switzerland, the comparability of Swiss qualifications with other types of qualifications existing in Europe plays an important role.

The length of programmes or the workload or credits needed for obtaining an IVET qualification is probably considered in all cases, at least implicitly. Programme length can reflect the complexity of the intended learning outcomes.

5.2.2.3. *Levelling as part of the qualifications design or renewal process*

Usually after the initial levelling, newly developed or renewed qualifications are assigned levels – explicitly or implicitly – in the design and development process (as part of their accreditation). Thus, new or renewed qualifications are either designed and allocated based on qualifications already levelled (following the same criteria as other qualifications belonging to the same type) and/or the NQF descriptors are clearly reflected in the qualifications' descriptions of learning outcomes.

The evidence of this study indicates that countries increasingly use the NQF levels and descriptors as reference points for developing and renewing qualifications. The analysis in Chapter 4 confirms that most countries have NQF descriptors reflected in the qualification descriptions even though the domains used in the NQF descriptors are not explicitly used for structuring qualification descriptions. Also, guidelines for developing or reviewing qualifications are increasingly referring to NQF descriptors. For example, in the Netherlands, the instructions for reviewing the qualification file refer to the descriptors of the NLQF to describe the level of complexity, autonomy, job/occupation-specific knowledge and skills. The legal framework ([132]) also includes many references to the NLQF descriptors to differentiate between levels 3 and 4 (by referring to different levels of complexity, responsibility, autonomy, knowledge and skills).

Currently, many countries are revising qualifications and calibrating them with NQF level descriptors. Box 32 provides some examples of approaches already using the NQF descriptors as a reference point for developing the learning outcomes of qualifications; in this sense, the NQF descriptors systematically guide and support the design and levelling of qualifications.

In the countries examined, the most often mentioned levelling approach is the 'use of contextual factors' followed by the 'use of technical/linguistic analysis: matching learning outcomes of individual qualifications with NQF/EQF level descriptors'. Although, in practice, probably all countries have used both approaches, referencing reports usually emphasised more the technical/linguistic mapping than the social or political approach.

Box 30. **NQF descriptors are used for developing qualifications**

Ireland continues to implement the NQF while shifting many legacy/existing IVET qualifications to a common awards system to ensure that they relate appropriately to NQF standards, requirements and levels. Specially convened expert working groups undertook this rigorous process to consider all legacy IVET qualifications and newly developed specifications for qualifications. Documentation for the levelling process includes drafts of qualification specifications issued for consultation and summary notes of the expert groups. An expert group carefully reviews (draft) learning outcomes to ensure alignment with the descriptors for the NQF levels and with the requirements for each qualification type.

Portugal formulates learning outcomes of new qualifications according to the NQF level descriptors (because their type is already levelled). The design/revision of qualifications serves to harmonise the learning outcomes of vocational qualifications

([132]) *Regeling vaststelling modellen kwalificatiedossier en keuzedeel en toetsingskader kwalificatiestructuur o 2016* [Regulation determining the qualification files dossiers and optional part and assessment framework for the qualification structure 2016].

with the appropriate NQF level descriptors. The involvement of both the sector qualification councils and the national agency for qualifications and VET (*agência nacional para a qualificação e ensino profissional*, ANQEP) serves as quality assurance.

New qualifications can start from the descriptors set for the level of the newly developed qualification and then later develop the learning outcomes.

For existing qualifications, learning outcomes are being adjusted to match the level of the qualification type. These mostly concern minor adjustments to the vocational qualification profiles, which help to strengthen the relationship between the qualifications and the level to which they had been referenced. In the example of the car mechanic at EQF level 4, the learning outcomes match the level descriptors well. In the design/revision of qualifications, a methodological guide published by ANQEP ([133]) helps designers to (re)formulate qualifications aligned to the NQF level descriptors.

Source: Country overviews and case studies.

5.3. Strengths and weaknesses of levelling procedures

In most countries, available studies or evaluations do not offer evidence of strengths and weaknesses of levelling procedures. Only a few countries have conducted evaluations related to the NQF but many countries plan them. Often it is not clear whether such activities would address the issue of levelling decisions or the levelling procedures applied.

This assessment is mainly based on expert statements, gathered in the interviews with national stakeholders, and further reflections. The discussion on strengths and weaknesses of levelling procedures and methods addresses the following aspects:

(a) overall set-up;
(b) classification principle;
(c) methods;
(d) results of levelling.

5.3.1. Overall set-up

The aspect mentioned most often in interviews as important is broad stakeholder involvement in levelling and applying the principles of inclusiveness and reaching consensus: this was highlighted by experts from Austria, Bulgaria, France, Germany, Hungary, Iceland, Latvia, Sweden and Switzerland. Interviewees from

([133]) See ANQEP, 2015.

Latvia, Austria and Poland further point to the importance of involving sectoral experts to ensure the quality of levelling qualifications.

Some interviewees, including from Croatia, Poland and Sweden, noted that the levelling methodology is new for stakeholders; there is a lack of clarity, particularly at the beginning, and it takes time to build a common understanding. Providing support, guidance and guidelines seems very useful, as emphasised by stakeholders in Lithuania and Malta. Also, a legal basis for levelling which transparently specifies procedures and responsibilities is considered strength (Austria, Poland) and the lack of strong legal basis is a weakness, as emphasised by stakeholders in Hungary and Iceland.

Lack of resources is most frequently mentioned with regard to weaknesses of levelling. Several stakeholders pointed to the amount of time and resources needed for levelling IVET qualifications, including Austria, Germany, Malta and Switzerland. In Austria, for example, the stakeholders and experts needed a long time for mapping (the first mapping took six months) making it quite expensive. Similarly, Switzerland required a lot of time and resources for the complex development of an application to allocate individual qualifications to levels and to check consistency; stakeholders questioned the cost-benefit ratio. As a result, a simplified way of levelling in Switzerland was introduced (Box 33).

Lack of transparency in the procedures applied is also sometimes seen as a weakness. In Ireland, the evaluation of the policy impact of the NFQ (QQI, 2017) does not identify any specific issues with the result of the levelling processes but notes the potential need for increased transparency: the processes for assigning an NFQ level to a qualification, and how the NFQ level associated with a qualification is maintained and confirmed by internal and external quality assurance processes, should be transparent.

The dominance of the formal education and training system in current levelling practices, or the fact that qualifications outside the formal system are not (yet) levelled, is also considered a weakness in some countries such as Austria, Bulgaria, Iceland and Switzerland; however, their inclusion might also heighten complexity. Austria, for example, will add a further structural element to the mapping of non-formal qualification: NQF service centres units have been set up and will receive mapping requests for non-regulated qualifications to be included in the NQF. This might heighten the level of complexity of the overall procedure.

5.3.2. Classification approach

There are different views across and sometimes within countries on the *en bloc* classification of qualifications by qualification type, which is the approach most often used for classifying initial VET qualifications in the countries analysed. Some

stakeholders consider the levelling of qualifications by type based on the structure of the existing system as strength because this best matches the realities of the respective national system and VET regulations. Although individual qualifications might also include learning outcomes that fit better to a lower or higher level, this does not necessarily justify linking qualifications belonging to the same type to different levels. However, some stakeholders consider *en bloc* levelling to be a weakness. In the Netherlands, the *Commissie Leijnse* report, prepared for drafting the EQF referencing report, referred to issues that not all qualifications belonging to the qualification types – later linked to EQF levels 3 and 4 – clearly matched the requirements for these levels. In 2011, a study on Dutch IVET qualifications at NQF/EQF level 4 revealed that, of the 53 selected qualifications (from a total of 242 in 2010-11), 33 were considered as better fitting to EQF level 5 ([134]).

Assigning individual qualifications to NQF levels is often seen as too costly if the levelling is not already done when designing a qualification. The fact that some countries use a combined approach shows that they try to overcome the shortcomings of each classification method. The example from Switzerland in Box 33 illustrates this.

Box 31. **Introducing a simplified way of levelling in Switzerland**

In Switzerland, IVET qualifications were originally levelled individually in a complex procedure based on a specific request submitted by professional associations (awarding bodies) to the State Secretariat for Education, Research and Innovation. Although these levelling procedures were generally considered of good quality, they discouraged professional associations from submitting a request for allocating their qualifications to levels. Additionally, experience has shown that most qualifications of a given type are assigned to the same level. In 2016, a simplified way of levelling was introduced, which implies the definition of standard reference levels for qualifications belonging to a specific type and semi-automatic allocation of qualifications to levels. However, Swiss experts questioned whether all qualifications belonging to the type Federal VET diploma (*Eidgenossiches Fähigkeit Zeugnis*, EFZ) should be positioned at NQF/EQF level 4: individual qualifications are heterogeneous and quite different in the complexity and variety of learning outcomes. They vary greatly from one professional context to another and the different durations of training paths (three or four years) must also be considered. In this respect, the introduction of intermediate

([134]) The updated Netherlands referencing report 2019 has confirmed levelling by type. 'In the Netherlands most types of qualification, including in higher education, are based on learning outcomes. This has been taken as point of departure for the development of the NLQF. The existing 17 types of qualifications are classified in nine levels of learning: the entry level and levels 1 to 8 of the NLQF. Levels 1 to 8 of the NLQF are referenced to the eight levels in the EQF. During the update of the referencing report the Ministry of Education, Culture and Science confirmed that the classification of the 17 types of qualifications into the levels of the NLQF is still correct.' (NCP-NLQF, 2019, p. 1).

levels was recommended. Also, experts noted that they probably should be classified on more than one level and the differences between professional sectors could justify the positioning of the Federal VET diploma at different levels. This is possible, since the original classification approach still exists: a professional organisation can request an individual levelling of a qualification if it feels that a specific qualification might be assigned higher levels within the NQF-VPET. In this case levelling is based on learning outcomes of each qualification description and takes into account the specifics of each profession. Close cooperation with all stakeholders is required to reach a consensus on a level for a specific qualification. This flexibility of the levelling process is generally considered a strength of the Swiss approach, since it is expected to make the whole system lighter and more sustainable and increases the attractiveness of engaging in the NQF process.

Source: Country overview and case study Switzerland.

5.3.3. Methods used

Well-developed methodologies are generally considered a strength and they also seem to contribute to developing consensus within a country. Some stakeholders (such as in Austria) emphasised the particular strength of needing to justify levelling decisions by providing evidence. Applying consist methodology is also important. German stakeholders, for example, noted that this was missing in the levelling conducted within pilot groups. The DQR manual ([135]) describing responsibilities, procedures, standards and methods has streamlined the allocation process.

To overcome the pitfalls of levelling procedures and improve comparability of qualifications, stakeholders expressed the need for better tools and methodologies to compare qualifications. Swiss stakeholders noted that indicating the level provides additional but not sufficient information. Certificate supplements with comprehensive descriptions of learning outcomes seem more important than the levels themselves for comparing qualifications. Swiss stakeholders strongly support using more detailed qualitative tools to compare qualifications (such as supplements and clarifications of documents of certificates and diploma). They also referred to applying taxonomy for positioning learning outcomes across countries to improve comparability of qualifications.

Most countries include context aspects for informing their levelling decisions, though this needs to be made explicit and transparent for international audiences.

The quality of the definition of levels and the level descriptors themselves is a further important aspect for levelling (as emphasised by stakeholders in France, Germany, Hungary, Lithuania and Switzerland). Level descriptors have to express clearly the progression in knowledge, skills and autonomy and responsibility or

([135]) BMBF, 2013.

other dimensions used in the national contexts. In Latvia, the differences in descriptors between levels 3 and 4 were not very clear and this lack of distinction between them creates some challenges in the levelling process ([136]). Also, the quality of the descriptions of qualifications and standards to be levelled can be seen as a strength, as emphasised by interviewees from Czechia, France and Malta or the integration of the levelling of the IVET qualifications in designing occupational standards (Latvia). In Ireland, for example, stakeholders highlighted the central roles of descriptors: The levelling approach, as currently used, has key strengths relating to the clarity of links between the wording of learning outcomes and level descriptions for the NFQ. However, this approach is frequently regarded as a bureaucratic process that struggles to engage labour market actors. In other countries, describing qualifications in learning outcomes is still work in progress (such as Hungary or Iceland). Some countries – for example Czechia – mentioned a lack of a methodology or clear guidelines for developing curricula leading to qualifications at a certain level.

5.3.4. Results of levelling

Both stakeholder views (those national representatives interviewed for this study) and further evidence (such as research studies or evaluation results) suggest that, in most countries, qualifications are generally perceived to have been levelled adequately, to the correct levels. For example, according to an evaluation of the implementation of the Danish qualifications framework, most (80%) of the key stakeholders working with levelling find a good match between level descriptors and levelling of individual IVET qualifications (EVA, 2013).

In most countries, this aspect does not seem to have been the object of analysis so far. One exception is Ireland, where the *Framework implementation and impact study* (NQAI, 2009, p. 52) identified issues around the levelling of two qualification types (leaving certificate (NFQ levels 3 and 4) and advanced Certificate (NFQ level 6)), despite the otherwise broad agreement on the accuracy of levelling for most qualifications.

Although most countries have a broad agreement among stakeholders on the adequacy of levelling decisions, a smaller group (Estonia, Hungary, Iceland, Luxembourg and Portugal) reported diverging views among stakeholders. They may refer to the levelling of a specific qualification type (such as the vocational

([136]) Latvian qualifications framework level descriptors at levels 1-4 and at level 8 have been slightly amended to reflect the changed qualifications landscape. Latvian Academic Information Centre, 2018, *Referencing of the Latvian qualifications framework to the European qualifications framework for lifelong learning and the qualifications framework for the European higher education area, updated self-assessment repor*t, Riga, November 2018.

aptitude diploma and the master craftsperson qualification in Luxembourg, and general upper secondary education in Portugal) or to the methods and procedures used for levelling (Hungary, Iceland).

5.4. Impact of levelling decisions

Only a few countries have conducted evaluations related to the NQF or the levelling decisions. Consequently, the discussion on the impact of levelling decisions is mainly based on stakeholders' opinions presented in interviews.

In approximately half of the countries, stakeholders perceive that the levelling decisions of qualifications and types of qualifications assigned to EQF levels 3 and 4 have had an impact on the qualifications' national or international standing (such as cooperation with other countries or supporting the recognition of qualifications across countries). However, as well as the levelling, the overall levelling procedures might have had an impact. The following national impacts were identified:

(a) improved understanding of qualifications: stakeholders from Belgium (Flemish Community), Croatia, Germany, Italy and Slovenia pointed to improved recognisability and better understanding of qualifications. In Italy, levelling in the NQF will lead to national recognition of regional qualifications once included in a national framework and register. The Swiss case study showed that when Federal authorities adopted principles underpinning the EQF, this led to positive homogenisation of descriptions of learning outcomes in qualification profiles and ordinances, such as the new professional regulations of the automotive sector. In Malta, learners, training providers and employers had increased their awareness of the qualification levels and their meaning. In Slovenia, because of the register of SQF qualifications that links to the EQF portal, descriptions of individual Slovenian qualifications are accessible to all European countries. Similarly, the register promotes easier comparability of Slovenian qualifications with the qualifications of other European countries;

(b) improvement in trust: the Irish NFQ is at a mature stage of development and significant trust and credibility has been built over time. The education and training community now understands that decisions on the appropriate NFQ levels of qualifications have resulted from a rigorous process and 'should be trusted';

(c) provision of a common language across education sectors and between education and the labour market: in Portugal, stakeholders are much more involved in setting qualification standards and contents. The increased focus on learning outcomes ensures a better link between the contents of education

programmes and labour market requirements. The levelling of qualifications encouraged stakeholders critically to review learning outcomes of vocational qualifications. A Swedish expert emphasised the provision of a common language between the education system and stakeholders on the labour market. In Germany, the common language and increased transparency also led to improved VET visibility and increased acceptance of parity of status between VET and higher education;

(d) benefits for institutions: the *Scottish review of SCQF credit rating activity 2016* centred on perceived/actual impact of the SCQF on VET organisations. The improved ability to market programmes with a confirmed value on the SCQF attracted more course participants. Credit rating processes also helped institutions to assure quality more broadly;

(e) benefits for individuals: levelling IVET qualifications in Iceland provided new tools for recognising prior learning. A person's actual competences become more important than how or where the competences were acquired. In the Irish policy impact study (QQI, 2017), most respondents stated that they 'strongly agreed' or 'agreed' that the NFQ has improved access to education and training (68%); improved progression between qualifications (81%); and made it easier to value learning achieved outside of the education system (63%).

Some interviewees stressed that the NQF levelling and EQF referencing processes had triggered national reforms that will increase transparency and comparability of qualifications (although the NQF had been first seen as a neutral communication tool). They also stressed the importance of continuing these reforms:

(a) in Bulgaria, public discussions on referencing NQF to EQF and the levelling procedure led to reform of the national VET system. This introduced a quality assurance system and VET standards that describe each qualification's units of learning outcomes. Since 2016, each unit has been allocated a corresponding NQF/EQF level;

(b) Austria did not identify any impacts based only on the levelling decisions. However, developing and implementing the EQF/NQF resulted in using learning outcomes to describe qualifications more coherently. Without an external stimulus, these changes would have been difficult for the school-based system, so the EQF/NQF (along with other instruments) helped assure quality;

(c) in Germany, the NQF contributed to further implementing the learning outcomes approach in curricula as well as in training and assessment ordinances;

(d) in Italy, the national repertory (Article No 8 of Legislative Decree No 13/2013) set the basis for creating the Italian NQF and a comprehensive 'mapping of the world of labour and qualifications'. This mapping is documented in the *Atlas of work and qualifications* ([137]), which includes the professional areas for 24 economic sectors. Each area is described through main working processes, areas of activity and specific activities. This allows correlation and equivalence between regional qualifications through competences descriptions. It describes the contents of work in terms of activities (tasks, assignments) and the resulting products/services. Further development of the *Atlas of work and qualifications* should support transparency and recognition of all qualifications;

(e) in Lithuania and Estonia, the implementation of the overarching NQF and wider discussions on how to increase transparency of qualifications has led to identifying gaps and imbalances in the provision of qualifications, a more systematic approach in developing qualifications. In Estonia the main discussion centred on the fact that there were no qualifications from initial education and training identified at level 5, only occupational qualifications. The Lithuanian qualifications framework (LTQF) has been used as a reference point for developing post-secondary VET qualifications at level 5 and has directly influenced reform and modernisation of the system. The first VET qualifications at this level have been developed. At the end of 2018 the Law on science and higher education legitimised short-cycle qualifications leading to level 5 qualifications, though implementation provisions for qualifications at this level have not been clarified;

(f) in Portugal, the introduction of the EQF and NQF led to a redesign of qualifications with a positive impact on transparency and comparability. The continuing redesign of vocational qualification profiles into specific sets of learning outcomes allows detailed understanding of requirements for qualifications. This improved transparency, most visible within Portugal but also across other Member States, helps break down barriers and dead ends for students in a formal education system. It also helps employers to understand and influence the contents of vocational qualifications. Inclusion of learning outcomes beyond pure technical expertise (currently the case for the Portuguese vocational profile for car mechanics) will also contribute to better understanding of the similarities and differences of qualifications within, and possibly beyond, Portugal. However, this has been accomplished only for a few qualifications in the hospitality sector. Future steps will inevitably deal

([137]) https://atlantelavoro.inapp.org/

with the difficulty of assigning common learning outcomes to a qualification with multiple pathways. Some transversal competences and attitudes may be difficult to capture in formally written learning outcomes. It would be challenging to describe learning outcomes for transversal competences rooted in implicit societal or cultural expectations. Doing so in a meaningful way remains the next step in contributing to transparency and comparability of qualifications;

(g) Polish stakeholders noted that the shift towards learning outcomes played a key role in increasing transparency between qualifications and in the VET system. It allowed for better linking of teaching content and external VET exams, which also improves the overall transparency of VET. The focus on learning outcomes ensures transparent levelling decisions based on mapping the outcomes needed for qualifications with NQF descriptors. This helped resist pressure to give qualifications a higher prestige by assigning them to higher levels.

Compared to these countries, Ireland has a mature NQF and some impact of the levelling and related reform processes can be observed. Transparency and comparability of qualification has improved. However, the NQF still suffers from lack of clarity and unmet expectations.

As for the perceived impact on international cooperation, the most frequently mentioned aspect refers to more easily explaining the role and relevance of (IVET) qualifications to education and labour market stakeholders in other countries (mentioned in Denmark, Germany and Hungary); this would support future mobility across Europe of workers (Iceland) and students (Malta). Particularly appreciated are the qualifications registers that display NQF levels and include key information on qualifications (Slovenia): stakeholders outside the country can also access the register and gain relevant information. However, this partly refers to an expected, but not yet achieved impact. Some stakeholders noted that the NQF and EQF have benefitted certain segments of the qualifications system but less so in helping the IVET qualifications analysed in this study or, specifically, the car mechanic qualifications.

Box 32. **Towards transparency and comparability: observations from Ireland**

Irish stakeholders expressed a strong view that the NFQ offers a very positive context for increased transparency and comparability of qualifications. Since the NQF was set up in 2003, the concept of levels has become widely understood and has improved comparability between qualifications at the same NFQ level. For example, the concept of a level 5 certificate, that includes qualifications previously awarded by multiple sector-specific national bodies, has increased appreciation of these qualifications across many sectors. However, the different classifications of qualifications are less well understood. The distinction between the major award qualification classification and other classifications is not fully appreciated beyond those most closely involved with the education and training system. As shown by the many qualifications awarded, minor awards as components of major awards provide important flexibility to recognise varied sorts of learning; however, the wider public and some employers do not seem to comprehend clearly the distinction between classifications of qualifications.

While introducing the NFQ should improve abilities to compare qualifications and thus provide increased progression routes, this theoretical flexibility intended by the NFQ is not always evident for IVET qualifications at NFQ levels 4 and 5 (EQF 3 and 4). In practice, progression often relies primarily on local relationships between education and training providers and also between providers and employers. For example, society widely regards the NFQ level 6/EQF level 5 (apprenticeship) qualification as necessary to work as a fully recognised car mechanic; however, there are some local examples of holders of the NFQ level 5/EQF level 4 certificate in motor technology gaining access to other education and training progression roots, which are subsequently accepted as ‘comparable’ by a major multinational company. This ability to take advantage of the flexibility associated with the NFQ appears to have arisen because of local relationships and is not common throughout Ireland.

Source: Country overview and case study Ireland.

Some national stakeholders referred to pitfalls of levelling procedures or decisions that hinder transparency and comparability of qualifications. For example, in Luxembourg, most discussions around levelling decisions take place around the levelling of the vocational aptitude diploma at EQF/NQF level 3.

In other cases, stakeholders mentioned the lack of transparent information about the different levelling procedures. Transparency and comparability have a crucial need for shared knowledge and understanding on what underpins levelling decisions in other Member States. This does not necessarily require that all countries take similar decisions or even that they follow similar methodologies; what matters is transparent decisions and acknowledgment of differences.

Box 33. **Transparency and comparability for enhancing cross-country mobility: observations from Ireland and the Netherlands**

In Ireland, the discussion over the NQF's contribution to international transparency and comparability of qualifications focused on the high proportion of Ireland's population holding qualifications associated with NFQ levels 6 (EQF 5) and above. Individuals who choose to leave Ireland originate mainly from this group (which includes Irish citizens and other nationals who spend some time in Ireland and subsequently choose to leave the country), therefore most evidence of the benefits relate to higher levels of the EQF and national frameworks. Similarly, those choosing to move to Ireland from other countries tend to also have relatively high levels of educational attainment. Given this context, many believe that NFQ implementation has had positive impacts on recognising Irish qualifications abroad and on relating qualifications from other jurisdictions to the Irish system.

In the Netherlands, the focus group noted limited cross-border mobility of holders of qualifications in the car mechanic branch and therefore no need for elaborated systems to increase transparency. In addition, the diploma-recognition department of the Foundation for Cooperation on VET and the Labour Market (SBB) ([138]) offers the possibility to compare foreign qualifications to the national system. It might, however, be that students tend to become more mobile; this encourages the sector to accommodate more foreign students.

Source: Case studies Ireland and the Netherlands.

Some stakeholders point to the lack of awareness of levelling results across a country and their limited value in practice (as in Bulgaria, Czechia, Hungary, Iceland, Netherlands, UK-Scotland). The EQF can only improve transparency and comparability when the EQF levels are made visible on certificates, diplomas, and certificate supplements. Some countries include NQF levels on certificates and diplomas and the EQF level on certificate supplements. For example, Ireland's NQF has 10 levels compared to the eight levels of the EQF; adding EQF levels directly to certificates increased confusion because of two numbers and provided little benefit. However, Ireland appropriately references EQF levels in the associated certificate supplements. Irish stakeholders particularly emphasised the need to communicate, at national and European levels, potential benefits of the NQF and the EQF since transparency and comparability are not ends in themselves (Box 36).

([138]) https://www.s-bb.nl/studenten/diplomawaardering-en-onderwijsvergelijking/diplomawaardering-en-onderwijsvergelijking

Box 34. **Continuing need for communication and promotion of benefits of NFQ and EQF: observations from Ireland**

In Ireland, significant communication activities occurred at various stages of development of the NFQ and when the NFQ was referenced to the EQF. Citizens and employers may regard it as most important to understand how to achieve the benefits of the NFQ/EQF for themselves rather than to appreciate fully its technical design and operational policies and procedures. However, citizens and employers would benefit from a deeper understanding beyond NFQ levels. Increased awareness of learning outcomes and, specifically, of qualification-type classifications would achieve greater benefits for all parties.

At the European level, examples of progression routes between education/training and employment across different countries may offer accessible explanations of how developing the NQFs and the EQF could have a positive impact on the lives of individuals. Continuing communication and examples of positive impact are needed nationally and internationally. National and international agencies should appreciate that implementation of any NQF is a continuing process. Learners, employers and workers are most likely to pay attention when making decisions on education, training or employment. This means that communication and promotions must take place regularly and frequently because the impact of a promotion may be limited to a relatively brief period. For example, focused communication on progression pathways would have minimal impact on key beneficiaries if it takes place two years before they make their decisions.

Source: Case study Ireland.

5.5. Emerging issues

This discussion and examples clearly show that learning outcomes, as well as currencies, of qualifications leading to the labour market or continued education and training play an equally important role in levelling procedures, although levelling methods are often not made explicit.

Learning outcomes refer both to the descriptors of the NQF and to the descriptions of qualifications. For example, to identify differences between qualifications linked to EQF level 3 and EQF level 4, the NQF level descriptors should clearly express this difference. They need to be carefully defined to provide the basis for classifying qualifications and make visible their different levels of learning outcomes. Well-defined level descriptors are also important for developing trust and engaging stakeholders in levelling procedures.

This process also needs to be supported by descriptions of learning outcomes reflecting the respective level of a qualification. Descriptions must consider the vertical dimension. In some cases explored in the study, the vertical dimension is not adequately expressed in qualification descriptions and then different ways are used to describe this dimension. Experts in the Swiss focus group even identified

the need to develop a European taxonomy to support the levelling of qualifications as well as their cross-country comparison.

Some stakeholders emphasised that levelling had an impact on common understanding of qualifications and led – at least partly – to the harmonisation of the development and description of IVET qualifications across economic sectors within a country. This issue might, however, be contested: such a standardisation can also have a negative impact when it leads to a narrowing down or a lack of further development and innovation. Therefore, it is crucially important to consider NQF descriptors and use them as guidance for developing qualifications and not as prescriptions ([139]).

Currencies of qualifications for entering the labour market or further learning play a key role in levelling processes. These currencies usually result from negotiations and practices involving stakeholders within a country. Engaging these stakeholders will develop trust in the integrity of levelling procedures and decisions. This study collected evidence that stakeholder involvement is getting stronger but is still weak in some countries. Weak stakeholder involvement in the NQF implementation might take the form of a paper reform without actually engaging stakeholders and without developing their confidence in levelling decisions.

As discussed in Chapter 3, assessing currencies largely depends on interpreting, in a national context, concepts such as VET qualification, skilled/semi-skilled worker and the perception and value of VET qualifications.

However, some countries look at the NQF classification in other countries to inform their levelling decisions and some even take examples of other countries' qualifications into account when designing their own. This does not necessarily result in further harmonisation across countries but might improve comparability of qualifications and mutual trust.

([139]) See also the discussion by Elken (2015) on the effect of the EQF on standardising education.

CHAPTER 6.

Conclusions and policy messages

6.1. Findings and conclusions

Section 6.1 presents findings and conclusions from this explorative study on the use of EQF levels 3 and 4 and the issues of transparency and comparability of qualifications.

6.1.1. How EQF levels 3 and 4 are used

Countries use EQF levels 3 and 4 in different ways. They are clearly at the crossroads of general education and VET (IVET, CVET). Most countries included in the study have their upper secondary school-leaving qualifications from general and vocational education linked to EQF level 4 and around a third of the countries also have general education qualifications linked to EQF level 3. Most countries also have initial vocational qualifications at EQF level 3. Austria and Sweden currently do not have qualifications linked to EQF level 3. This level is empty.

EQF level 4 shows use for IVET qualifications and their currencies

The heart of IVET seems to be at EQF level 4; a total of 41 qualification types from initial vocational education are linked to this level. All countries included in the study have at least one IVET qualification type at EQF level 4. The remaining countries have two or more IVET qualifications types linked to EQF level 4: Austria, Belgium (Flemish Community), Croatia, Estonia, Germany, Greece, Hungary, Ireland, Italy, Poland, Slovenia, UK (UK-England, Wales and Northern Ireland; and UK-Scotland).

In most countries, IVET qualifications share EQF level 4 with upper secondary school-leaving certificates from general education (mostly included in the NQFs), providing access to higher education. The countries share tendencies in how they use EQF level 4, reflecting a common trend for the currency of EQF level 4 IVET qualifications. These qualifications generally lead to skilled-worker status; while they provide (legal) possibilities to enter higher education, they are generally used to access the labour market.

EQF level 3: more diverse IVET qualifications and currencies

In total, 31 IVET qualification types are linked to EQF level 3, in the countries included in the report. Three countries do currently not have any IVET qualification types linked to EQF level 3: Austria, Portugal, and Sweden. Four countries have

two IVET qualification types linked to EQF level 3: France, Hungary, Poland, United Kingdom (UK-England, Wales and Northern Ireland and UK-Scotland). Ireland has three IVET qualification types linked to EQF level 3. The remaining countries have one qualification type linked to EQF level 3.

Compared to EQF level 4, the use of EQF level 3 is less clear. Some countries associate a social inclusion function with this level; it offers opportunities (in line with an individual's competences) for further education or access to the labour market. Some countries, however, allocate this social function to EQF level 2. Other countries do not have a specific target group but EQF level 3 qualifications mostly lead to different labour market positions compared to EQF level 4. In some countries or sectors, there seems to be less clear labour market demand for EQF level 3 qualifications.

EQF level 3 qualifications include IVET qualifications leading both to semi-skilled and skilled worker status; they generally provide opportunities for further learning (but not higher education). In general, VET serving as a social safety net is more associated with EQF level 3 than EQF level 4.

Despite (or perhaps because of) the social function in some countries, IVET programmes linked to EQF level 3 only make a limited contribution to social mobility and to solving social inequality. Some researchers have coined the phrase trapped in a 'low skills/low productivity equilibrium' (Fleckenstein and Lee, 2017, p. 109). In some countries, students with a disadvantaged background seem to be particularly overrepresented in VET programmes preparing for EQF level 3 qualifications. EQF level 3 graduates also have a generally low success rate in further learning, especially when they enter higher education.

Qualifications linked to EQF levels 3 and 4 differ in complexity, autonomy and responsibility, as well as types of learning outcomes

Comparing qualifications linked to EQF levels 3 and 4 reveals some clear distinctions reference their currencies. Qualifications at EQF levels 3 and 4 usually have distinct profiles, labour market value and progression possibilities. EQF level 4 qualifications generally lead to skilled worker status, provide legal possibilities to enter higher education, but are generally used to access the labour market and – depending on the country context – have well-established social status. Analysis of EQF level 3 qualifications does not reveal a clear-cut pattern of whether a qualification leads to skilled or semi-skilled work. More than half of EQF level 3 EQF qualifications lead to semi-skilled work, the rest to skilled work. These qualifications often prepare for less complex activities or do not qualify to enter an occupation at skilled worker position, but rather as assistants. They often target weaker students who cannot cope with the skills levels associated with skilled

worker status (such as working independently). However, the description of semi-skilled work can have different meaning across countries: it can mean that the qualification does not prepare for a well-described occupation, that graduate will work under supervision, or that the graduate requires further learning to become a fully qualified worker. Often another qualification needs to be obtained in further learning at the same or higher level to become a skilled worker. Thus, what is considered skilled worker status might differ across countries. Most EQF level 3 qualifications provide possibilities for further learning, but not to higher education.

IVET qualifications linked to EQF level 4 have a higher share of general subjects, underpinning theoretical knowledge and transversal learning outcomes compared to EQF level 3 qualification; these are important elements for gaining access to further learning and to higher education, as well as a response to future labour market demands. The case studies on car mechanic qualifications show that qualifications within a country, either on level 3 or 4, include varying numbers of learning outcomes; qualification descriptions cover different areas (qualifications linked to EQF level 4 have more learning outcomes included). Car mechanic qualifications at EQF levels 3 and 4 most frequently have distinctions based on the complexity of tasks, mastering of these tasks and the worker's degree of autonomy and responsibility. Although important, the aspects related to the vertical dimension of learning outcomes descriptions is sometimes not well elaborated in those descriptions.

6.1.2. EQF contribution to increased IVET qualification transparency and comparability

This study is made possible by the implementing, in the past decade, of the EQF and the developments in describing qualifications with learning outcomes. Because of these developments, it is possible to identify national qualifications linked to EQF levels 3 and 4 and to discuss their characteristics, learning outcomes and their currencies. This analysis makes an additional step in increasing comparability and transparency of qualification systems in Europe. Without the EQF, implementation of learning outcomes and levelling of qualifications, it would not be at all possible to compare qualifications as done in this study.

The learning outcomes provide important information about qualifications. Therefore, the EQF and the use of learning outcomes contribute to increasing comparability and transparency of qualifications across borders. The distribution of different types of learning outcomes (occupational learning outcomes, transversal learning outcomes and general knowledge subjects) indicates the character or profile of a qualification. This distribution can be related to the qualifications' currency in the labour market, in society and for further learning.

Those qualifications – mostly placed at EQF level 4 – that have more general knowledge subjects included in their learning outcomes are more oriented towards the world of education and have stronger links with further learning in higher education.

Transparency and comparability also refer to the way concepts are used across countries. Comparing IVET qualifications at the same EQF level across countries reveals the use of different concepts. For example, the notions 'skilled worker' and 'semi-skilled worker' are understood differently in various national contexts. Semi-skilled worker status can refer to qualifications providing only a part of the learning outcomes needed to be considered a skilled worker. It can also mean an insufficient level of learning outcomes to be considered a skilled worker. Applying these concepts depends on many contextual characteristics related to the structure of the VET system, its link to and functioning of the labour market, and the perceived role of the VET system in relation to the labour market. The different understanding of these concepts might not be clearly visible in learning outcomes descriptions but becomes obvious when a qualification from one country is assessed against one in another country ([140]).

The following observations can be made on the strengths and weaknesses of levelling approaches and on how they contribute to the core aim of the EQF, the improvement of transparency and the comparability of qualifications:

(a) transparency of levelling procedures and of rationale underpinning levelling decisions: the referencing process information provided by countries varies, as does the scope of the referencing processes itself. In the first round of referencing NQFs to the EQF, discussion of the roles played by technical or linguistic methods and social or political considerations was often not explicit (Cedefop, unpublished a). The first round of EQF referencing reports provides only limited information on the approach chosen and aspects considered when linking qualifications to NQF levels. This often makes it difficult for outsiders to understand the method applied ([141]). Recently published EQF referencing reports seem increasingly to address this issue and provide more detailed information on the methodology used for linking qualifications to NQF levels; however, the levelling methods used are still a kind of black box. There are few explicit descriptions of the methods applied for levelling of new and revised

([140]) This is also linked to countries' attempts to protect the integrity of their national qualifications system (see Morrow and Keevy, 2006).

([141]) 'While some countries have put much effort into pilot studies, research and active involvement of stakeholders, others have done so to a lesser degree. This directly limits comparability and the extent to which the levelling can be trusted.' (European Commission, 2016, p. 11).

qualifications (following initial levelling procedures). EQF referencing reports are snapshots in time and only capture the status quo at that time. Evidence shows that many countries, after the initial levelling, have reviewed and revised their qualifications and consider NQF level descriptors when accrediting a qualification. This information is only partially transparent;

(b) trust in levelling procedures: discussions with national stakeholders indicated that the aspects that lead to trust in one national context (such as reflecting the existing qualifications structure, involving a broad group of stakeholders and applying the consensus decision-making principle), need to be made transparent for other countries for trust to evolve. For example, national stakeholders might develop a consensus to link at the same level all IVET qualifications belonging to the same type (despite their potential variety); other countries might contest this levelling decision when they compare individual qualifications across countries, since a qualification's learning outcomes might still need to be revised to match the respective level descriptors. Some countries have built on long-standing experience with learning outcomes and qualifications frameworks, other have implemented their reforms more recently. This is work in progress. The national actors in some countries emphasised the importance of a 'reality check' (evaluating the actual learning outcomes of a holder of qualifications from abroad) over the interpretation of written (intended) descriptions of qualifications ([142]);

(c) transparency of qualifications: levelling is often already done in the design, development and review of qualifications (as part of their accreditation). NQF levels and descriptors serve as reference points in addition to other principles or criteria for developing IVET qualifications. Although this process is usually not called levelling, and does not always have a distinct phase dedicated to levelling, reflecting NQF descriptors in learning outcomes can improve the transparency and the level of performance associated with qualifications. Also, integrating NQF descriptors in the guidelines for developing qualifications creates more uniformity on the levels of the learning outcomes;

(d) comparison of qualifications: NQF classification (levelling results) leads to discussions and mutual learning and improves understanding of different qualifications allocated to the same levels, but comparison is still difficult. However, NQF implementation has inspired discussions on similarities and differences in qualifications across countries.

To conclude, implementing EQF and NQF and using learning outcomes to level and describe qualifications have allowed better comparison of qualifications

([142]) Consult also Brockman et al., 2011a.

and understanding distinctive features of qualifications across countries. These developments emphasise the outcome-related alongside the input-related features of qualifications. In addition, this study has shown that the increased inclusion of NQF descriptors in guidelines for developing and revising qualifications supports the design of qualifications fitting the NQF level descriptors.

6.2. Emerging issues and policy messages

Given the differences and similarities in IVET qualifications linked to EQF levels 3 and 4 discussed in this report, how is it possible to increase the comparability of qualifications and how can systems become more transparent?

Specific information on qualifications to improve comparability

This study has shown that the EQF strengthens detailed comparisons of levels of qualifications and groups of qualifications that share specific characteristics (in this case IVET qualifications belonging to the formal system) to EQF level 3 and 4. The findings show that purposes and currencies often differ between qualifications linked to EQF levels 3 and 4 and that there seems to be a relationship between currencies and the distribution of types of learning outcomes. This last element seems to be an important factor for understanding qualifications: how learning outcomes are distributed across general knowledge subjects, transversal learning outcomes and occupational learning outcomes. This information, however, is not readily available; this study relied on country researchers assessing the balance of types of learning outcomes in qualifications or curriculum descriptions. More information on this and progression possibilities to further learning, particularly to higher education, are usually included in certificate supplements. This is often closely related to the level of general knowledge subjects in the distribution of learning outcomes. Such information provides a more reliable indication of the overall profile and the currency for further learning of a qualification. The key comparability criteria – the information that needs to be provided for comparing vocational qualifications across countries – should include the EQF level, the distribution of different types of learning outcomes and the purposes and currency aspects (specifically access to further learning) ([143]).

([143]) The set of criteria presented by Morrow and Keevy (2006, p. 31) could be further used as inspiration (Section 4.3).

Improving reference points to help compare VET qualifications

Two reference points (ESCO, WSSS) were used in this study for comparing car mechanic qualifications from selected countries, although they were not specifically developed for this purpose. This exercise revealed that the mapping of learning outcomes included in qualifications to these reference points can help identify a common core of learning outcomes across countries. However, these reference points have limited usefulness for indicating the importance of specific learning outcomes: they do not support their weighting within a qualification or for showing differences between qualifications linked to different levels because they do not sufficiently reflect the vertical dimension. Further work is needed to improve existing or to develop new reference points for comparing VET qualifications ([144]).

Broader perspective on the social inclusion function of VET and of EQF levels

The study has looked at IVET qualifications at EQF level 3 and 4 and observed that EQF level 3 has a social inclusion function in some countries. An earlier study looked at EQF level 5 (Cedefop, 2014c) and would benefit from an update given the developments in the last five years at this level. It should further explore whether IVET qualifications at level 5 are emerging outside higher education or whether mainly higher education qualifications are found at this level. It should also analyse the purposes and currencies of these qualifications. In addition, a mapping of IVET qualifications at EQF level 2 might be relevant because they are not often used in countries but often might have a social inclusion purpose, even more than at EQF level 3. Including EQF level 2 in IVET can be linked to the character and prestige of the entire IVET system: qualifications at EQF level 2 may make the system more inclusive than systems without such qualifications. The downside, however, might be that the status of the entire IVET system is then measured by its lowest level: VET might be considered as targeted at those who fail in general education.

Increased focus on achieved learning outcomes to improve comparability

A caveat of the study is that it looked at learning outcome descriptions (intended learning outcomes) and not at achieved learning outcomes (those achieved by graduates, realised at the labour market and experienced by employers). The

([144]) This is an aim of a current Cedefop study on *Comparing vocational education and training qualifications: towards a European comparative methodology*: http://www.cedefop.europa.eu/de/about-cedefop/public-procurement/comparing-vocational-education-and-training-qualifications-towards. For more information consult: https://www.cedefop.europa.eu/en/events-and-projects/projects/comparing-vet-qualifications

study showed that learning outcome descriptions need to be understood in their context and are not value-free: they are designed to serve a purpose and this purpose is not always to ease cross-border comparisons. Also, although the learning outcomes approach is generally considered to be a common language, the level of detail or methods (such as the structure or terminology used) of describing qualifications with learning outcomes differs widely across countries. Stakeholders on car mechanic qualifications noted that learning outcomes do not completely express the details of the car mechanic qualification at a specific level; also, the differences between similar qualifications at different levels do not become fully visible by looking at the learning outcomes descriptions only. This identifies some limitations (particularly, the vertical dimensions) in current descriptions of qualifications using learning outcomes. Further investigation needs to consider which learning outcomes are possessed by graduates and to what extent and how these outcomes can actually be used in the labour market and for further learning.

The EQF supports the shift in thinking about qualifications to learning outcomes (in terms of intended learning outcomes as written statements). Now that VET systems allow (as this study shows) comparisons and analyses based on intended learning outcomes, a next step could be to make the shift to achieved learning outcomes and address the question: supported by evidence, what can graduates really do with their learning outcomes? This supports yet another level of comparability and transparency, more interesting for learners (who would like to be well-informed about opportunities when obtaining a qualification) and employers (who are better able to see what currency a specific qualification has, also across borders) ([145]). The EU policy initiative on graduate tracking already points in this direction (Council of the European Union, 2017b). This topic could be addressed in EQF referencing reports (in the second round of referencing). A European-wide study could shed additional light on the similarities and differences in qualifications in terms of achieved learning outcomes. This could be subject to a new study: analysing the currency aspects and profiles of qualifications in terms of achieved learning outcomes. However, there are limitations to using a comparative approach in relation to achieved learning outcomes: contextual aspects (such as the structure of the qualifications system, the structure of the labour market or the link between both) might influence the use of achieved learning outcomes. For example, the labour market opportunities of IVET graduates might be influenced by a specific region's economic conditions or structures. Also, bigger cities usually have more opportunities for further learning.

([145]) See also Greatorex, 2013.

These aspects need to be reflected when interpreting and comparing findings related to achieved learning outcomes.

EQF referencing reports update to increase trust across countries

One opportunity to improve trust across countries is to update EQF referencing reports. These reports are snapshots in time and, since countries are continuing to develop their qualifications systems – often triggered by NQF implementation – regular update might be necessary as emphasised in the revised EQF recommendation (2017). Particular attention should be paid to the implementation of the NQFs and to criterion No 4, which refers to the levelling of qualifications:

(a) given the different aspects that might influence levelling, and the fact that NQFs are also political instruments, transparent information should be provided on levelling regulations, procedures, criteria and methods. This is also important when levelling qualifications is done in the design process;
(b) quality assurance arrangements and criteria underpinning levelling decisions should be explicitly described;
(c) characteristics of qualifications or types of qualifications referring to key comparability criteria need to be mentioned to improve understanding of qualifications across borders;
(d) since the descriptions of intended learning outcomes are open for interpretation, it is recommended not only to focus on the mapping of these learning outcomes to the NQF descriptors but also to provide evidence related to the output of qualifications, such as their different currency aspects, as well as to achieved learning outcomes;
(e) referencing reports need to be kept concise and user-friendly and cannot provide every piece of detailed information about qualification types and their characteristics. However, some specific examples of qualifications could be provided to illustrate levelling procedures and decisions. It might also be useful to include a brief comparison of qualification types, either from the national system (such as qualification types linked to different levels) or as a comparison of a national qualification type with qualification types from other countries that share specific characteristics.

Continuing dialogue and awareness-raising crucial to comparability

Although EQF referencing reports seem to be useful starting points for increasing trust as well as for reflecting choices made and comparing qualifications (types), they have their limitations. They are snapshots and continuous dialogue is important to improve trust. This could come from organising further peer learning activities that focus on comparing selected qualifications. Further work on

developing methodologies for comparing qualifications, as done in a current Cedefop study, can contribute to improving the comparative approach.

Finally, a broader public should be addressed through awareness-raising activities about NQF implementation, and particularly about levelling. For cross-country cooperation, the EQF portal could play an important role by presenting sufficient, but concise, information about qualification types. Further detailed information about qualifications and their key characteristics should be available in certificate supplements.

Abbreviations/Acronyms

ANQEP	national agency for qualifications and VET *agência nacional para a qualificação e ensino profissional*
BBL	*beroepsbegeleidende leerweg* *work-based pathway*
BEP	*brevet d' etudes professionnelles* French brevet of vocational studies
BOL	*beroepsopleidende leerweg* school-based pathway
CAD	computer-aided design
CAP	*certificate d' aptitude professionelle* French professional skills certificate
CFC	*Cadre francophone des certifications pour l'éducation et la formation tout au long de la vie* qualifications framework for lifelong learning (Belgium - French Community)
CQP	*certificats de qualification professionnelle*
DAP	*diplôme d'aptitude professionnelle* vocational aptitude diploma (Luxembourg)
DQR	German NQR
EFTA	European Free Trade Association
EQF	European qualifications framework
ESCO	European skills, competences, qualifications and occupations
HE	higher education
HuQF	Hungarian NQF
ICT	information and communications technology
IeFP	*istruzione e formazione professionale* vocational education and training
ISCED	international standard classification of education
IT	information technology
IVET	initial vocational education and training
KSC	knowledge, skills, competence
LO	learning outcomes
LTQF	Lithuanian NQF
MBO3	*middelbaar beroepsonderwijs* VET level 3 (Netherlands)
NCs	national certificates
NCP	national coordination point
NCFHE	National Commission for Further and Higher Education

NLQF	Dutch NQF
NPAs	national progression awards
NQF	national qualifications framework
NQGA	(Scottish) National Qualification Group Awards
NSK	*národní soustava kvalifikací* national register of qualifications
NVQs	national vocational qualifications
NVQR	national vocational qualification register
PET	professional education and training
PQF	Polish NQF
QF-EHEA	qualifications frameworks in the European higher education area
QQI	Quality and Qualifications Ireland
SBB	Foundation for Cooperation on VET and the Labour Market
SCQF	Scottish credit and qualifications framework
SECs	sectoral councils (Latvia)
SERI	Swiss State Secretariat for Education Research and Innovation
SQF	Slovenian NQF
UIS	UNESCO Institute for Statistics
VET	vocational education and training
NQF-VPET	NQF for vocational and professional education and training
WEB	*Wet educatie en beroepsonderwijs* Education and Vocational Education Act
WSSS	world skills standards specifications

Country codes

AT	Austria
BE-fl	Flemish Community of Belgium
BE-fr	French Community of Belgium
BG	Bulgaria
CH	Switzerland
CZ	Czechia
DE	Germany
DK	Denmark
EE	Estonia
EL	Greece
FR	France
HR	Croatia

HU	Hungary
IE	Ireland
IS	Iceland
IT	Italy
LT	Lithuania
LU	Luxembourg
LV	Latvia
MT	Malta
NL	Netherlands
NO	Norway
PL	Poland
PT	Portugal
SE	Sweden
SI	Slovenia
UK-EWNI	United Kingdom-England, Wales and Northern Ireland
UK-Sc	United Kingdom-Scotland

References

[URLs accessed 20.12.2019]

Allais, S. (2011). Using learning outcomes to make educational judgements: some practical and conceptual issues. In: Bohlinger, S.; Münchhausen, G. (eds). *Validierung Von Lernergebnissen [Recognition and validation of prior learning]*. BIBB. Bielefeld: Bertelsmann, pp. 145-166. https://www.bibb.de/veroeffentlichungen/de/publication/show/6718

AMS; Statistik Austria; Sozialministerium (2015). *Nach der Ausbildung: Ergebnisse aus dem Bil-dungsbezogenen Erwerbskarrieremonitoring (BibEr) im Auftrag von BMASK und AMS für die Schul-jahre 2008/09 bis 2010/11 [After the apprenticeship: results from the educational career monitoring (BibEr) on behalf of the BMASK and AMS for the school years 2008/09 to 2010/11]*. Vienna: Statistics Austria. https://www.ams-forschungsnetzwerk.at/deutsch/publikationen/BibShow.asp?id=11128&sid=1027995881&look=2&jahr=2015

Anderson L.W. et al. (2001*). A taxonomy for learning, teaching and assessing: a revision of Bloom's taxonomy of educational objectives*. New York: Longman.

ANQEP (2015). *Methodological guidebook: design of qualification based on learning outcomes*. http://www.catalogo.anqep.gov.pt/boDocumentos/getDocumentos/561

Bjørnåvold, J.; Chakroun, B. (2017). Learning outcomes in comparing VET qualification profiles: a global approach. In: Cedefop (2017). *Global inventory of regional and national qualifications frameworks 2017: volume I: thematic chapters*. Luxembourg: Publications Office, pp. 95-112. http://unesdoc.unesco.org/images/0026/002603/260363e.pdf

Bloom, B. et al. (1956). *Taxonomy of educational objectives: the classification of educational goals: vol. 1*. New York: David McKay.

BMBF (2013). *Handbuch zum Deutschen Qualifikationsrahmen [Manual for the German qualifications framework]*. http://www.kmk.org/fileadmin/Dateien/veroeffentlichungen_beschluesse/2013/130823_Handbuch_mit_nicht-barrierefreier_Anlage_MAM.pdf

BMUKK; BMWF (2013). *Austrian EQF referencing report*. https://ec.europa.eu/ploteus/en/referencing-reports-and-contacts

Brockmann, M.; Clarke, L.; Winch, C. (eds) (2011a). *Knowledge, skills and competence in the European labour market*. London: Routledge.

Brockmann et al. (2011b). Interpretive dictionary: competence, qualification, education, knowledge. In: Brockmann, M.; Clarke, L.; Winch, C. (eds) (2011a). *Knowledge, skills and competence in the European labour market*. London: Routledge, pp. 149-184.

Cedefop (2009). *The dynamics of qualifications: defining and renewing occupational and educational standards*. Luxembourg: Publications Office. Cedefop panorama series. https://www.cedefop.europa.eu/files/5195_en.pdf

Cedefop (2010). *Learning outcomes approaches in VET curricula: a comparative analysis of nine European countries*. Luxembourg: Publications Office. Cedefop research paper; No 6. https://www.cedefop.europa.eu/files/5506_en.pdf

Cedefop (2012). *International qualifications*. Luxembourg: Publications Office. http://www.cedefop.europa.eu/files/4116_en.pdf

Cedefop (2013). *The role of qualifications in governing occupations and professions*. Luxembourg: Publications Office. http://www.cedefop.europa.eu/files/6120_en.pdf

Cedefop (2014a). *Terminology of European education and training policy: second edition: a selection of 130 key terms*. Luxembourg: Publications Office. http://www.cedefop.europa.eu/files/4117_en.pdf

Cedefop (2014b). *Attractiveness of initial vocational education and training: identifying what matters*. Luxembourg: Publications Office. Cedefop research paper; No 39. www.cedefop.europa.eu/files/5539_en.pdf

Cedefop (2014c). *Qualifications at level 5: progressing in a career or to higher education*. Luxembourg: Publications Office. Cedefop working paper; No 23. http://www.cedefop.europa.eu/files/6123_en.pdf

Cedefop (2016). *Application of learning outcomes approaches across Europe: a comparative study*. Luxembourg: Publications Office. Cedefop reference series; No 105. http://dx.doi.org/10.2801/735711

Cedefop (2017). *Defining, writing and applying learning outcomes: a European handbook*. Luxembourg: Publications Office. https://www.cedefop.europa.eu/en/publications-and-resources/publications/4156

Cedefop (2018a). *National qualifications framework developments in Europe 2017*. Luxembourg: Publications Office. http://www.cedefop.europa.eu/files/4163_en.pdf

Cedefop (2018b). *The changing nature and role of vocational education and training in Europe. Volume 2: results of a survey among European VET experts*. Luxembourg: Publications Office. Cedefop research paper; No 64. http://dx.doi.org/10.2801/548024

Cedefop (2019a). *Overview of national qualifications framework developments in Europe 2019*. Luxembourg: Publications Office. https://www.cedefop.europa.eu/en/publications-and-resources/publications/8609

Cedefop (2019b). *Qualifications frameworks in Europe: 2018 developments: building on learning outcomes, promoting trust*. Briefing note; May 2019. https://www.cedefop.europa.eu/files/9139_en.pdf

Cedefop (2019c). *European NQF inventory 2019: Switzerland*. https://www.cedefop.europa.eu/en/publications-and-resources/country-reports/switzerland-european-inventory-nqf-2018

Cedefop (forthcoming a). *Vocational education and training in Europe 1995-2035: scenarios for European vocational education and training in the 21st century*. Luxembourg: Publications Office.

Cedefop (forthcoming b). *Comparing vocational education and training qualifications across countries: towards a learning outcomes-based methodology*. Luxembourg: Publications Office.

Cedefop (unpublished a). *Note to EQF national coordination points: lessons learnt from the presentation of the first EQF referencing reports*.

Cedefop (unpublished b). First steps towards a learning-outcomes-based methodology for comparing VET-qualifications: supporting the dialogue between vocational education and training and the labour market.

Council of Europe (1997). Convention on the recognition of qualifications concerning higher education in the European region. *European treaty series*, No 165. http://www.coe.int/en/web/conventions/full-list/-/conventions/rms/090000168007f2c7

Council of the European Union (2017a). 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*, C 189/15, 15.6.2017. https://ec.europa.eu/ploteus/sites/eac-eqf/files/en.pdf

Council of the European Union (2017b). Council recommendation of 20 November 2017 on tracking graduates. *Official Journal of the European Union*, C 423/01, 9.12.2017. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017H1209(01)&from=EN

Dave, R.H. (1970). Psychomotor levels. In: Armstrong, R.J. (ed.). *Developing and writing behavioral objectives*. Tucson, Arizona: Educational Innovators Press.

Elken, M. (2015). *Standardizing education? The development of the European qualifications framework and national qualifications frameworks*. Dissertation submitted for the degree of PhD. Department of Education, Faculty of Educational Sciences, University of Oslo. https://www.duo.uio.no/bitstream/handle/10852/50529/PhD-Elken-DUO.pdf?sequence=1&isAllowed=y

European Commission (2013). *Referencing national qualifications levels to the EQF: update 2013*. European qualifications framework series; Note 5.

Luxembourg: Publications Office.
https://ec.europa.eu/ploteus/sites/eac-eqf/files/EQF%20131119-web_0.pdf

European Commission (2016). *Commission staff working document: Annex III: revision of the European qualifications framework*. COM(2016) 381 final. https://ec.europa.eu/social/BlobServlet?docId=15694&langId=en

EVA (2013). *Evaluering af den danske kvalifikationsramme for livslang læring: status for implementering og anvendelse af kvalifikationsrammen [Evaluation of the Danish qualifications framework for lifelong learning: the status of implementation and use of qualifications framework]*. Copenhagen: Danish Evaluation Institute. https://www.eva.dk/ungdomsuddannelse/evaluering-danske-kvalifikationsramme-livslang-laering

Fleckenstein, T., Lee, S.C. (2017). Caught up in the past? Social inclusion, skills, and vocational education and training policy in England. *Journal of education and work*, Vol. 31, No 2, pp. 109-124.

Flemish Parliament (2009). Decreet betreffende de kwalificatiestructuur [Act on the qualification structure]. *Belgisch Staatsblad*, 16.7.2009, p. 49597. http://data-onderwijs.vlaanderen.be/edulex/document.aspx?docid=14111

Gallacher, J.; Ingram, R.; Reeve, F. (2012). Are vocational qualifications vocational? In: Pilz, M. (ed.). *The future of vocational education and training in a changing world*. Wiesbaden: Springer VS, pp. 381-401. https://www.springer.com/gp/book/9783531185279

Glorieux, I.; Laurijssen, I.; Sobczyk, O. (2014). *De instroom in het hoger onderwijs van Vlaanderen: een beschrijving van de huidige instroompopulatie en een analyse van de overgang van secundair onderwijs naar hoger onderwijs [The intake in Flanders' higher education: a description of the current intake population and an analysis of the transition from secondary education to higher education]*. Research paper SSL/2013.16/4.1.2, Leuven: Steunpunt SSL. https://steunpuntssl.be/Publicaties/Publicaties_docs/ssl-2013.16-4-1-2-de-instroom-in-het-hoger-onderwijs-van-vlaanderen

GO! (2011). *Leerplan secundair onderwijs TSO: derde graad: specifiek gedeelte Autotechnieken [Curriculum for secondary education (TSO): third stage: car engineering].* Brussels: GO! https://www.g-o.be/

Gössling, B. (2016): All new and all outcome-based? The German qualifications framework and the persistence of national governance approaches. *Journal of education and work*, Vol. 29, No 5, pp. 540-561.

Greatorex, J. (2013). How can major research findings about return to qualifications illuminate the comparability of qualifications? Presentation at the conference *Journal of vocational educational and training*, University of Oxford, 5-7 July 2013. https://www.cambridgeassessment.org.uk/Images/145933-how-can-major-research-findings-about-returns-to-qualifications-illuminate-the-comparability-of-qualifications-.pdf

Government of the Republic of Estonia (2013). Kutseharidusstandard [vocational education standard]. *Riigi Teataja [State Gazette] No 130*. https://www.riigiteataja.ee/akt/116072016008

Høst, H. (2011). *Disse ungdommene hadde nok ikke fullført: evaluering av forsøk med praksisbrev: delrapport 2 [These young people would probably not have completed: evaluation of trials with certificate of practice: interim report 2]*. Oslo: NIFU.

Knavs, S.; Šlander, M. (2019). *Vocational education and training in Europe: Slovenia*. Luxembourg: Publications Office. Cedefop ReferNet VET in Europe reports 2018. http://libserver.cedefop.europa.eu/vetelib/2019/Vocational_Education_Training_Europe_Slovenia_2018_Cedefop_ReferNet.pdf

Logaj, V. et al. (2014). *Referencing the Slovenian qualifications framework to the European qualifications framework for lifelong learning and the qualifications framework for the European higher education area: final report: Slovenia*. Ljubljana: CPI. https://ec.europa.eu/ploteus/sites/eac-eqf/files/Final%20Report%20SI_2014.pdf

Lokhoff, J. et al. (eds) (2010). *A tuning guide to formulating degree programme profiles including programme competences and programme learning outcomes.* Competences in education and recognition project (CoRe). Bilbao: Deusto publications. http://core-project.eu/documents/Tuning%20G%20Formulating%20Degree%20PR4.pdf

Luomi-Messerer, K.; Brandstetter, G. (2011). *Stärkung der Lernergebnisorientierung im Hochschulbereich: Hintergründe, Beispiele, Empfehlungen im Kontext interner und externer Qualitätssicherung [Strengthening the learning outcomes in higher education: backgrounds, examples, recommendations in context of internal and external quality assurance]*. Schriftenreihe des Fachhochschulrates, Band 12. Wien: facultas.wuv

Maurice, M.; Sellier, F.; Silvestre, J-J. (1986). *The social foundations of industrial power: a comparison of France and Germany*. Cambridge, Mass.: MIT Press.

Morrow, W.; Keevy, J. (2006). *The recognition of teacher qualifications and professional registration status across commonwealth Member States: balancing the rights of teachers to migrate internationally against the need to protect the integrity of national education systems*. Pretoria: South African Qualifications Authority. http://www.saqa.org.za/docs/misc/2007/fulldoc.pdf

NCFHE (2016). *Referencing report: referencing the Malta qualifications framework (MQF) to the European qualifications framework and the qualifications framework of the European higher education area*. 4th revised edition February 2016.

https://ec.europa.eu/ploteus/sites/eac-eqf/files/malta_referencing_report_2016.pdf

NCP-NLQF (2019). *Referencing the Dutch Qualifications Framework NLQF to the European Qualifications Framework*. Update: September 2019: final version. https://ec.europa.eu/ploteus/sites/eac-eqf/files/referencing_the_dutch_qualifications_framework_nlqf_to_the_european_qualifications_framework.pdf

NKS (2016). *Handbuch für die Zuordnung von Qualifikationen zum Nationalen Qualifikationsrahmen (NQR) [Manual for the assignment of qualifications to the national qualifications framework]*. Wien: NKS. https://www.qualifikationsregister.at/wp-content/uploads/2019/06/HandbuchNQR2019_einzel.pdf

NQAI (2009). *Framework implementation and impact study: report of study team*. https://www.qqi.ie/Downloads/Framework%20Implementation%20and%20Impact%20Study.pdf

NÚV (2014). *Úspěšnost absolventů středních škol ve vysokoškolském studiu, předčasné odchody ze vzdělávání [Completion rates in upper-secondary and tertiary education, early school leaving]*. http://www.nuv.cz/uploads/Vzdelavani_a_TP/VS_predcas_odchody_2014_pro_www.pdf

NVAO (2016). Assessment and demonstration of achieved learning outcomes: recommendations and good practices. Outcomes of the *NVAO peer learning event*, 29-30 October 2015. http://ecahe.eu/assets/uploads/2018/01/Report-Achieved-Learning-Outcomes-Recommendations-and-Good-Practices-2016.pdf

Onderwijs (2015). *Conclusies screening van de 29 studiegebieden in het voltijds secundair onderwijs [Conclusions of the screening of the 29 study areas in full-time secondary education]*. http://docplayer.nl/422830-Conclusies-screening-van-de-29-studiegebieden-in-het-voltijds-secundair-onderwijs-23-apr il-2015.html

Pevec-Grm, S.; Mali, D. (eds) (2002). *Izhodisca za pripravo izobrazevalnih programov nizjega in srednjega poklicnega izobrazevanja ter programov srednjega strokovnega izobrazevanja [Guidelines for the preparation of educational programmes of lower and secondary vocational education and secondary techncial programmes]*. http://www.cpi.si/files/cpi/userfiles/izhodisca.pdf

Protsch, P.; Solga, H. (2016). The social stratification of the German VET system. *Journal of education and work*, Vol. 29, No 6, pp. 637-661.

QQI (2017). *Policy impact assessment of the Irish national framework of qualifications*. http://www.qqi.ie/Downloads/Policy%20Impact%20Assessment%20of%20NFQ%20Indecon%20Report%20-%20FINAL.pdf

QQI (no date a). *Certificate specification NFQ level 4: engineering skills 4M2895.* http://www.qqi.ie//sites/docs/AwardsLibraryPdf/4M2895_AwardSpecifications_English.pdf

QQI (no date b). *Certificate specification NFQ level 5: motor technology 5M2145*.

SBB (2015). *Kwalificatiedossier MBO Voertuigen en mobiele werktuigen [MBO qualification file vehicles and mobile equipment]*. Crebo No 23109. Zoetermeer: SBB https://kwalificaties.s-bb.nl/Details/Index/2834?type=kwalificatie&item_id=1001121&returnUrl=%2F%3FResultaatType%3DAlles%26AardKeuzedeel%3D%26SBU%3D%26Niveau%3D%26Wettelijkeberoepsvereisten%3D%26Cohort%3D%26Schooljaar%3D%26Certificaat%3D%26Trefwoorden%3D25244

SERI (2015). *Swiss EQF referencing report*. Bern: SERI. https://ec.europa.eu/ploteus/sites/eac-eqf/files/e_referencing_report_final_ch.pdf

Skubic Ermenc, K. et al. (2016). *Smernice za implementacijo in uporabo slovenskega ogrodja kvalifikacij in učnih izidov v praksi/ [Guidelines for the implementation and use of the Slovenian qualifications framework and learning outcomes in practice]*. https://www.nok.si/sites/www.nok.si/files/dokumenti/sok-smernice-koncna1.pdf

Spöttl, G.; Ruth, K. (eds) (2011). *ECVET: Kompatibilität von Kompetenzen im Kfz-Sektor [ECVET: compatibility of competences in the automotive Sector]*. Impuls 42, Schriftenreihe der Nationalen Agentur Bildung für Europa beim Bundesinstitut für Berufsbildung.

UIS (2011). *International standard classification of education: ISCED 2011*. Montreal: UIS. http://www.uis.unesco.org/Education/Documents/isced-2011-en.pdf

Wheelahan, L.; Buchanan, J.; Yu, S. (2015). *Linking qualifications and the labour market through capabilities and vocational streams*. Adelaide: NCVER.

Wilson, R.; Hogarth, T. (eds) (2003). *Tackling the low skills equilibrium: a review of issues and some new evidence*. Final report. https://warwick.ac.uk/fac/soc/ier/publications/2003/wilson_et_al_2003_low_skills.pdf

Further reading

[URLs accessed 20.12.2019]

Busemeyer, M.R.; Trampusch, C. (2012). The comparative political economy of collective skill formation. In Busemeyer, M.R.; Trampusch, C. (eds). *The political economy of collective skill formation*. Oxford: Oxford University Press, pp. 3-38.

Cedefop (2013). *Renewing VET provision: understanding feedback mechanisms between initial VET and the labour market*. Luxembourg: Publications Office. Cedefop research paper; No 37. http://www.cedefop.europa.eu/EN/Files/5537_en.pdf

Cedefop (2016). *Governance and financing of apprenticeships*. Luxembourg: Publications Office. Cedefop research paper; No 53. www.cedefop.europa.eu/files/5553_en.pdf

Cedefop (2017). *The changing nature and role of vocational education and training in Europe. Volume 1: conceptions of vocational education and training: an analytical framework*. Luxembourg: Publications Office. Cedefop research paper; No 63. https://www.cedefop.europa.eu/files/5563_en_0.pdf

Cedefop (2017). *Cedefop European public opinion survey on vocational education and training*. Luxembourg: Publications Office. Cedefop research paper; No 62. https://www.cedefop.europa.eu/files/5562_en.pdf

Cedefop (2018). *Changing nature and role of vocational education and training in Europe. Volume 5: education and labour market outcomes for vocational education and training graduates in different types of VET systems in Europe*. Luxembourg: Publications Office. Cedefop research paper; No 69. https://www.cedefop.europa.eu/en/publications-and-resources/publications/5569-0

Cedefop (2018). *The changing nature and role of vocational education and training in Europe. Volume 4: Changing patterns of enrolment in upper secondary initial vocational education and training (IVET) 1995-2015*. Luxembourg: Publications Office. Cedefop research paper; No 68. https://www.cedefop.europa.eu/en/publications-and-resources/publications/5568

Cedefop (2018). *Analysis and overview of NQF level descriptors in European countries*. Luxembourg: Publications Office. Cedefop research paper; No 66. https://www.cedefop.europa.eu/en/publications-and-resources/publications/5566

Clarke, L. (2011). Trade? Job? Occupation? The development of occupational labour markets for bricklaying and lorry driving. In: Brockmann, M.; Clarke, L.;

Winch, C. (eds). *Knowledge skills and competence in the European labour market*. London: Routledge, pp. 102-119.

Clarke, L.; Westerhuis, A. (2011). Establishing equivalence through zones of mutual trust. In: Brockmann, M.; Clarke, L.; Winch, C. (eds). *Knowledge skills and competence in the European labour market*. London: Routledge, pp. 136-148.

Coles, M.; Werquin, P. (2009). The role of national qualifications systems in helping to modernise vocational education and training system. In: Cedefop (2009). *Modernising vocational education and training: fourth report on vocational training research in Europe: background report volume 3*. Luxembourg: Publications Office. Cedefop reference series; No 71. https://www.cedefop.europa.eu/files/3050_3_en.pdf

De Schutter, J. (2011). *MBO-4 kwalificaties die vermoedelijk voldoen aan nlqf niveau 5 een verkennende studie in opdracht van de MBO raad*. http://www.nlqf.nl/images/downloads/Herzieningsverzoek/Rapport%20NLQF%20mbo-4%20kwalificaties.pdf

ETF (2013). *Good multilevel governance for vocational education and training*. http://www.etf.europa.eu/webatt.nsf/0/5C0302B17E20986CC1257C0B0049E331/$file/Multilevel%20governance%20x%20VET.pdf

Flemish Government; AKOV (2012). *The Flemish qualifications structure: developed, approved, implemented*. http://vlaamsekwalificatiestructuur.be/wat-is-vks/meer-info-en-downloads/files/Brochure-Developed_Approved_Implemented-(En)-12-2012.pdf

Freidson, E. (2001). *Professionalism: the third logic*. Cambridge: Polity Press.

Green, A.; Pansiero, N. (2016). The effects of upper secondary education and training systems on skills inequality. A quasi-cohort analysis using PISA 2000 and the OECD survey of adult skills. *British educational research journal*, Vol. 42, No 5, pp. 756-779.

Hodgson, A.; Spours, K. (2014). 'Heavy fog in the Channel: continent cut off': reform of upper secondary education from the perspective of English exceptionalism. *European educational research journal*, Vol. 13, No 6, pp. 683-698.

IBE (2016). *The pilot project on the horizontal comparison of levelled qualifications*. Draft of the final report for discussion at the AG38 meeting. http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetailDoc&id=28730&no=11

Klein, M. (2015). Educational expansion, occupational closure and the relation between educational attainment and occupational prestige over time. *Sociology*, Vol. 50, No 1, pp. 3-23.

Markowitsch, J.; Luomi-Messerer, K. (2008). Development and interpretation of descriptors of the European qualifications framework. *European journal of vocational training*, Nos 42 and 43, pp. 33-58.

Ministry of Education and Science (2013). *Referencing the NQF of the Republic of Bulgaria to the EQF and to the qualifications framework for the European higher education area*.

Noelke, C.; Horn, D. (2014). Social transformation and the transition from vocational education to work in Hungary: a difference-in-difference approach. *European Sociological Review*, Vol. 30, No 4, pp. 431-443.

Ockham IPS (2017). *Onderzoek NLQF [NLQF research]*. nlqf.nl/images/downloads/Artikelen/Eindrapport_onderzoek_NLQF_Ockham_IPS_2017.PDF

Olsen, O.J. et al. (2015*). Institutional innovations in Norwegian VET: responses to key challenges. Nord-VET: the future of VET in the Nordic countries*. Department of Psycology and Educational Studies, Roskilde University.

Panican, A; Hellström, T. (2016). *Synen på Yrkesutbildningar måste förändras (SVD) [Vocational training must change]*. http://www.svd.se/synen-pa-yrkesutbildningar-maste-forandras

Stenstrom, M.-L.; Lasonen, J. (2000). *Strategies for reforming initial vocational education and training in Europe*. Jyväskylä: Institute for Educational Research.

Stenström, M.-L.; Virolainen, M. (2016). Towards the enhancement of schoolbased VET in Finland. In: Berner, E.; Gonon, P. (eds*). History of vocational education and training in Europe: cases, concepts and challenges*. Bern: Peter Lang. https://www.peterlang.com/view/title/36834

UIS (2015). *International standard classification of education. Fields of education and training 2013 (ISCED-F 2013): detailed field descriptions*. http://unesdoc.unesco.org/images/0023/002350/235049e.pdf

ANNEXES

ANNEX 1.

Overview of qualification types linked to EQF levels 3 and 4

Table 7. **Overview of qualification types linked to EQF levels 3 and 4**

ID	Country	EQF level	Title in EN	Title in national language
1	AT	4	VET school qualification (schools for intermediate vocational education)	*Abschluss der berufsbildenden mittleren Schule*
2	AT	4	Apprenticeship diploma	*Lehrabschluss*
3	BE-fl	3	Upper secondary vocational education certificate	*Beroepssecundair Onderwijs* (BSO)
4	BE-fl	4	Upper secondary vocational education (third year of third stage) diploma	*Beroepssecundair Onderwijs* (BSO)
5	BE-fl	4	Upper secondary technical education school-leaving certificate/Upper secondary artistic education leaving certificate	*Technisch Secundair Onderwijs* (TSO); *Kunstsecundair Onderwijs* (KSO)
6	BG	3	Vocational qualification level 2 (second level/degree VET qualifications, IVET programme B; school-based, vocational schools or vocational high schools, 4 years)	*Втора степен на професионална квалификация, Рамкова програма Б (4 години)*
7	BG	4	Vocational qualification level 3 (third level/degree VET qualifications, IVET programme C; school-based, vocational schools or vocational high schools, 5 years)	*Държавно образователно изискване за придобиване на квалификация по професията „Техник по транспортна техника (Автомобилна мехатроника)*
8	CH	3	Federal VET certificate	*Eidgenössisches Berufsattest* (EBA)
9	CH	4	Federal VET diploma	*Eidgenössisches Fähigkeitzeugnis* (EBZ)
10	CZ	3	Upper secondary education with VET certificate (Vocational education, three years of upper secondary study)	*Střední vzdělání s výučním listem*
11	CZ	4	Upper secondary education with *maturita* exam (vocational education, four years of upper secondary study)	*Střední vzdělání s maturitní zkouškou*
12	DE	3	Dual VET (two-year training courses)	*Duale Berufsausbildung (2 jährig)*
13	DE	4	Dual VET (three-year and three-and-a-half-year training courses)	*Duale Berufsausbildung (3 oder 3.5 jährig)*
14	DE	4	Full-time vocational school ([146])	*Berufsfachschule*
15	DK	3	VET certificate/VET journeyman's certificate	*Erhvervsuddannelse (EUD, EUV, EUX)*
16	DK	4	VET certificate/VET journeyman's certificate	*Erhvervsuddannelse (EUD, EUV, EUX)*

([146]) Another type of qualification is also available: Full-time vocational school (*Berufsfachschule – vollqualifizierende Berufsausbildung nach BBiG/HwO*). The curricula and examination regulations are the same as for dual VET and the certificates are issued by the chambers; however, the training is offered in VET schools and the training incudes internships. This option has a rather low image and is declining.

ID	Country	EQF level	Title in EN	Title in national language
17	EE	3	VET qualification certificate, level 3	*3. taseme kutseõppe lõputunnistus/Kolmanda taseme kutseõpe*
18	EE	4	Upper secondary VET certificate	*Kutsekeskharidusõpe (Kutsekeskhariduse lõputunnistus)*
19	EE	4	VET certificate, level 4	*4.taseme kutseõppe lõputunnistus/Neljanda taseme kutseõpe*
20	EL	3	Vocational training school (SEK) certificate	*Σχολές επαγγελματικής κατάρτισης (ΣΕΚ)*
21	EL	4	Vocational school (EPAS) certificate	*Επαγγελματικές σχολές (ΕΠΑΣ)*
22	EL	4	Vocational upper secondary school (EPAL) degree + vocational upper secondary school (EPAL certificate)	*Πτυχίο επαγγελματικής ειδικότητας, εκπαίδευσης και κατάρτισης επιπέδου 4 (ΕΠΑΛ) + Απολυτήριο επαγγελματικού λυκείου (ΕΠΑΛ επιπέδου 4)*
23	FR	3	CAP (professional skills certificate, EQF 3) ([147])	*Certificat d'aptitude professionnelle (CAP)*
24	FR	3	*Brevet* of vocational studies/Secondary vocational certificate (BEP) ([148])	*Brevet d'etudes professionnelles (BEP)*
25	FR	4	Vocational baccalaureates (*Bac pro*)	*Baccalauréats professionnels, Bac pro*
26	HR	3	Upper secondary VET certificate, two years/Upper secondary VET certificate, one year	*Jednogodišnje i dvogodišnje strukovno obrazovanje*
27	HR	4	Upper secondary VET certificate, three years	*Trogodišnje strukovno obrazovanje*
28	HR	4	Upper secondary VET certificate, four years/Upper secondary VET certificate, five years	*četverogodišnje i petogodišnje strukovno srednjoškolsko obrazovanje*
29	HU	3	Lower secondary and secondary level partial, full and add-on VET qualifications ([149])	*Alapfokú és középfokú teljes, rész- és ráépüléses OKJ szakképesítés*
30	HU	3	Leaving certificate and VET qualification (vocational schools for students with special needs)	*Speciális szakiskolai záróbizonyítvány és OKJ szakképesítés*

([147]) In agricultural fields, these are called *Certificats d'aptitude professionnelle agricole* (CAPA) (secondary vocational certificates in agriculture). They have not been treated as a separate type in this study.

([148]) In agricultural fields, these are called *Brevets d'études professionnelles agricoles* (BEPA) (secondary vocational certificates in agriculture). They have not been treated as a separate type in this study. BEP and BEPA are intermediary qualifications granted to young people who have passed the BEP exam and are preparing for baccalaureate professional.

([149]) These lower secondary NVQR vocational qualifications can be obtained within the so-called *Bridge programme* in the school system (secondary vocational schools), which are similar to catch-up programmes. These qualifications could be partial or full or add-on qualifications, depending on entry requirements. Add-on qualifications build on one or more full qualifications. These consist of additional modules that extend the scope of activities for which the holder is qualified. Partial qualifications cover a subset of the modules included in a full qualification. They prepare the holder for simpler occupations or for a narrower scope of tasks. Lower secondary and secondary qualifications have different access requirements.

ID	Country	EQF level	Title in EN	Title in national language
31	HU	4	Vocational secondary school-leaving certificate ([150])	*Szakközépiskolai záróbizonyítvány*
32	HU	4	Vocational grammar school-leaving certificate ([151])	*Szakgimnáziumi záróbizonyítvány*
33	IE	3	Certificate level 4 (special purpose award)	
34	IE	3	Certificate level 4 (minor award)	
35	IE	3	Certificate level 4 (major award)	
36	IE	4	Certificate level 5 (major award)	
37	IE	4	Certificate level 5 (minor award)	
38	IS	3	Vocational qualification for professional rights	*Próf í starfsmenntun*
39	IS	4	Vocational examination for professional rights	*Réttindapróf í starfsmenntun*
40	IT	3	Professional operator certificate (3-year VET programmes under the competence of the regions, IeFP)	*Attestato di qualifica di operatore professionale*
41	IT	4	Professional technician diploma (4-year VET programmes under the competence of the regions, IeFP)	*Diploma professionale di tecnico*
42	IT	4	Upper secondary education diploma, technical school	*Diploma istruzione tecnica e professionale, istituti tecnici*
43	IT	4	Upper secondary education diploma, vocational school	Diploma istruzione tecnica e professionale, istituti professionali
44	LT	3	VET diploma ([152])	*Profesinio mokymo diplomas*
45	LT	4	VET diploma	*Profesinio mokymo diplomas*

([150]) In 2016, the naming of vocational schools has been changed to raise the profile of vocational training. The previously called vocational schools became vocational secondary schools. Three-year vocational secondary school training prepares learners for state-recognised vocational qualifications listed in the national vocational qualification register. Training can be school-based or enterprise-based (dual training). In school-based training, the practical training component of the IVET programme is organised in school workshops. The dual apprenticeship training is based on apprenticeship training contracts when practical training is provided by enterprises. Both are integrated parts of IVET at upper secondary VET level and lead to the same vocational qualifications listed in NVQR. A student in Hungary attends a vocational secondary school as a first step; later on, this individual can conclude an apprenticeship training contract with an enterprise. This means that students start in vocational secondary schools but they will not necessarily continue with an apprenticeship. Those students who cannot conclude apprenticeship training contracts can participate in school-based VET where practical training is organised for them in the school workshops or, based on bilateral agreements concluded between schools and companies.

([151]) In 2016, the naming of vocational secondary schools was changed to raise the profile of vocational training. The previously called vocational secondary schools became vocational grammar schools (four-year and award vocational secondary school-leaving certificate). This type of qualification could be school-based or apprenticeship.

([152]) According to the existing legal regulation and the latest amendments of the Law on VET (last amendment made in December 2017), the qualifications referenced to both levels 3 and 4 are entitled as *Profesinio mokymo diplomas* (VET diploma).

ID	Country	EQF level	Title in EN	Title in national language
46	LU	3	Vocational aptitude diploma (DAP)	*Diplôme d'aptitude professionnelle* (DAP)
47	LU	4	Technician diploma	*Diplôme de technicien*
48	LV	3	Certificate of vocational education	*Atestāts par arodizglītību*
49	LV	4	Diploma of vocational secondary education	*Diploms par profesionālo vidējo izglītību*
50	MT	3	VET level 3	N/A
51	MT	4	VET diploma	N/A
52	NL	3	VET level 3 (MBO3) (Secondary vocational education, professional level)	MBO 3 (MBO 3 diploma: *WEB-vakopleiding, voltijd bol en bbl*)
53	NL	4	VET level 4 (MBO4) (Secondary vocational education, middle management level)	MBO 4 (MBO 4 diploma: *WEB-middenkaderopleiding, voltijd bol en bbl*)
54	NO	3	Document of competence for partially completed upper secondary education (certificate of partially completed upper secondary education and training)	*Kompetansebevis (lærekandidat, praksisbrev)*
55	NO	4	Trade or craft certificate; Journeyman's certificate ([153])	*Fagbrev, Svennebrev*
56	PL	3	Diploma of vocational qualification in (tittle of occupation), full qualification (3-year sectoral vocational school	*Dyplom potwierdzający kwalifikacje w zawodzie [nazwa zawodu]*
57	PL	3	Certificate of vocational qualification in (title of occupation), partial qualification (3-year sectoral vocational school)	*Świadectwo potwierdzające kwalifikacje w zawodzie [nazwa zawodu]*
58	PL	4	Certificate of vocational qualification in (tittle of occupation), partial qualification	*Świadectwo potwierdzające kwalifikacje w zawodzie [nazwa zawodu]*
59	PL	4	Diploma of vocational qualification in (title of occupation), full qualification (5-year technical secondary school	*Dyplom potwierdzający kwalifikacje w zawodzie [nazwa zawodu] technikum)*
60	PT	4	Upper secondary education and professional certification (double certification)	*Ensino secundário obtido por percursos de dupla certificação*
61	SE	4	Diploma from a national programme in upper secondary education, qualification title for	*Gymnasieexamen från gymnasieskolan*

([153]) Treated as one qualification type: attention should be paid to the fact that both variations of VET refer to the same paragraph of the education law and they are integrated in officially, recognised upper secondary education. In addition, when some vocational programmes are not able to offer apprenticeship training to all students, those who cannot start such training, which includes systematic workplace learning, will follow a school-based VET trajectory towards the cited certificate of completed VET. Hence, treating them as two separate qualification types appears inaccurate, yet only approximately 10 trades do not offer workplace training as part of the trajectory for obtaining a trade certificate, so being limited to a three-year school-based route, albeit supplemented by some workplace experiences.

ID	Country	EQF level	Title in EN	Title in national language
			students starting 2011 onwards ([154])	
62	SI	3	Final examination certificate (lower vocational education, two years)	*Spričevalo o zaključnem izpitu*
63	SI	4	Final examination certificate (secondary vocational education, three years)	*Spričevalo o zaključnem izpitu, Srednja poklicna izobrazba*
64	SI	4	Vocational *matura* certificate (secondary technical education, four years)	*Spričevalo o poklicni mature*
65	UK-EWNI ([155])	3	Competence-based qualification (NVQ)	
66	UK-EWNI	3	Diploma (vocationally related qualification)	
67	UK-EWNI	4	Competence-based qualification (NVQ)	
68	UK-EWNI	4	Extended diploma (vocationally related qualification)	
69	UK-Sc	3	Scottish vocational qualification (SVQ)	
70	UK-Sc	3	National qualification group awards (NQGA) ([156])	
71	UK-Sc	4	Scottish vocational qualification (SVQ)	
72	UK-Sc	4	National qualification group awards (NQGA)	

NB: BE-fr: is not included.
Even though levels of the CQF have been referenced to the EQF already in 2015, examples of qualifications have been levelled and included in the register of qualifications only recently.

Source: Cedefop based on Template 1, Part A, Part B and tables from Cedefop NQF inventory reports.

([154]) Upper secondary vocational education; please note, a *gymnasieexam* can be both IVET and general education.

([155]) There is no consistent definition of the types of qualification available (for example there is even dispute about whether an apprenticeship is a qualification or a framework for qualifications). Different terms are used to describe the different types of qualifications available, depending on factors including purpose (for example in official statistics and in government documents), context, and awarding organisation (there are many awarding organisations in the United Kingdom). However, a broad distinction can be made between:
(a) qualifications designed for students in colleges/schools which tend to be referred to as 'vocationally related' or 'knowledge-based' qualifications;
(b) qualifications designed for students in the workplace which tend to be referred to as 'competence-based' or 'competence' qualifications (similar to, and in some cases still including, the old national vocational qualifications that are gradually being phased out).
There was a consensus among interviewees that this is probably the most appropriate distinction to be made for this study.

([156]) National qualification group awards (NQGA) is the term which encompasses national certificates (NCs) and national progression awards (NPAs): https://www.sqa.org.uk/sqa/46552.html

ANNEX 2.

Focus on car mechanic qualifications: further information

Table 8. **Currencies of IVET qualifications analysed in case studies**

Country	EQF level	Title of IVET qualification type	Currency in the labour market ([157])	Currency for further learning ([158])
CH	3	Federal VET certificate	Semi-skilled workers	Access to other further learning (not HE)
	4	Federal VET diploma	Qualified/competent/skilled workers	Conditional access to HE
DK	3	VET certificate at level 3	Qualified/competent/skilled workers	Direct access to HE, but hardly used
	4	VET certificate at level 4	Qualified/competent/skilled workers	Direct access to HE
IE	3	Level 4 certificate (major award)	Semi-skilled workers	Access to other further learning
	4	Level 5 certificate (major award)	Semi-skilled workers	Limited access to HE
IT	3	Professional operator certificate	Qualified/competent/skilled workers	Access to other further learning (not HE)
	4	Professional technician diploma	Qualified/competent/skilled workers	Access to other further learning
NL	3	VET level 3 (MBO3) (Secondary vocational education, professional level)	Qualified/competent/skilled workers	Access to other further learning (not HE)
	4	VET level 4 (MBO4) (Secondary vocational education, middle management level)	Qualified/competent/skilled workers	Direct access to HE
PL	3	Diploma of vocational qualification in (title of occupation), full qualification, (3-year sectoral vocational school, *szkoła branżowa I stopnia*)	Semi-skilled workers	Conditional access to HE
	4	Diploma of vocational qualification in (title of occupation), full qualification (5-year technical secondary school, *technikum*)	Qualified/competent/skilled workers	Direct access to HE
PT	4	Double certification: secondary education qualification and professional qualification	Qualified/competent/skilled workers	Direct access to HE

([157]) See Section 3.2 for more information on the distinction between qualifications leading to semi-skilled versus skilled work.

([158]) See Section 3.3 for more information on the types of options for further learning and how they are defined.

Country	EQF level	Title of IVET qualification type	Currency in the labour market ([157])	Currency for further learning ([158])
SI	3	Final examination certificate (lower vocational education, two years)	Semi-skilled workers	Access to other further learning
	4	Vocational *matura* certificate (secondary technical education, four years)	Qualified/competent/skilled workers	Direct access to HE

Source: Country overviews.

Table 9. **Features of learning outcomes descriptions**

Country	EQF level	Title of IVET qualification type	Level(s) of description ([159])	Horizontal dimension ([160])	Vertical dimension ([161])
CH	3	Federal VET certificate	Differs (here: whole)	Mostly KSC (implicit)	Both key words/action verbs and references to the degree of autonomy and responsibility
	4	Federal VET diploma	Differs (here: whole)	Mostly KSC (implicit)	Both key words/action verbs and references to the degree of autonomy and responsibility
DK	3	VET certificate/VET journeyman's certificate	Whole	KSC ([162]) (implicit)	By degree of autonomy or key words
	4	VET certificate/VET journeyman's certificate	Whole	KSC (implicit)	By degree of autonomy or key words
IE	3	Level 4 certificate (major award)	Both	KSC (explicit)	By action verbs and contextualisation of LOs
	4	Level 5 certificate (major award)	Both	KSC (explicit)	By action verbs and contextualisation of LOs
IT	3	Professional operator certificate	Both	Knowledge and skills (implicit)	By key words or action verbs, linked to the context and in some cases the degree of autonomy/responsibility

([159]) Defines whether learning outcomes are described for the whole qualification (such as overarching qualification profile), for a part of the qualification (such as units, modules or other structuring elements) or for both levels.

([160]) Refers to which mode of reflecting learning domains is used (such as by using knowledge, skills, competence). The term in bracket specifies whether learning outcomes in qualifications are explicitly or implicitly structured according to the domains used in the NQF descriptors.

([161]) Refers to how descriptions express performance levels/level of complexity (such as by using specific key words or action verbs, by referring to the context or the degree of autonomy/responsibility).

([162]) Both qualifications from Denmark used knowledge, skills, and competence, but not systematically.

Country	EQF level	Title of IVET qualification type	Level(s) of description ([159])	Horizontal dimension ([160])	Vertical dimension ([161])
	4	Professional technician diploma	Both	Knowledge and skills (implicit)	By key words or action verbs, linked to the context and in some cases the degree of autonomy/responsibility
NL	3	VET level 3 (MBO3) (secondary vocational education, professional level)	Part	KSC and behaviour (implicit)	Responsibility and autonomy; behaviour
	4	VET level 4 (MBO4) (secondary vocational education, middle management level)	Part	KSC and behaviour (implicit)	Responsibility and autonomy; behaviour
PL	3	Diploma of vocational qualification in (title of occupation), full qualification (3-year sectoral vocational school, *szkoła branżowa I stopnia*)	Both	Knowledge, skills, social competence (implicit)	Knowledge: scope and depth of understanding; skills: performance of tasks of varying complexity; social competence: degree of autonomy/responsibility
	4	Diploma of vocational qualification in (title of occupation), full qualification (5-year technical secondary school, *technikum*)	Both	Knowledge, skills, social competence (implicit)	Knowledge: scope and depth of understanding; skills: performance of tasks of varying complexity; social competence: degree of autonomy/responsibility
PT	4	Double certification: secondary education qualification and professional qualification	Both	Knowledge, skills and attitude (explicit)	By action verbs
SI	3	Final examination certificate (lower vocational education, two years)	Both	KSC (implicit)	By action verbs
	4	Vocational *matura* certificate (secondary technical education, four years)	Both	KSC (implicit)	By action verbs

Source: Country overviews, case studies.

Table 10. **Mapping against WSSS: overview profile of qualifications**

WSSS	CH		DK		IE		IT		NL		PL ([163])		PT	SI		Av.	Med.
	EQF 3	EQF 4	EQF 3	EQF 4	EQF 3	EQF 4	EQF 3	EQF 4	EQF 3	EQF 4	EQF 3	EQF 4	EQF 4	EQF 3	EQF 4		
Total coverage	**43%**	**93%**	**67%**	**80%**	**23%**	**52%**	**100%**	**100%**	**92%**	**100%**	**85%**	**89%**	**100%**	**23%**	**100%**	**77%**	**89%**
Work organisation and management	100%	100%	58%	58%	50%	92%	100%	100%	92%	100%	92%	100%	100%	50%	100%	86%	100%
Communication and interpersonal skills	70%	100%	80%	80%	70%	100%	100%	100%	80%	100%	80%	80%	100%	40%	100%	85%	80%
Electrical and mechanical systems and their integration	0%	93%	53%	93%	0%	40%	100%	100%	100%	100%	80%	80%	100%	27%	100%	71%	93%
Inspection and diagnosis	13%	88%	75%	75%	13%	63%	100%	100%	88%	100%	100%	100%	100%	0%	100%	74%	88%
Repair, overhaul and service	38%	88%	75%	88%	0%	0%	100%	100%	94%	100%	81%	88%	100%	0%	100%	70%	88%
Median EQF 3 qualifications (n=7): 67%																	
Median EQF 4 qualifications (n=8): 97%																	

NB: Ireland did not have a major award at EQF3 directly relating to car mechanics; engineering skills was used. For Slovenia, assistant in technology processes was used. The WSSS list consists of 61 items in total.

Source: Case studies.

([163]) To acquire the EQF 4 level qualification in Poland, learners can choose between two partial qualifications (MG12: diagnosis and repair of electrical and electronic systems of automotive vehicles, and MG18: diagnosis and repair of sub-assemblies and assemblies of automotive vehicles). This analysis is based on the mapping of MG18 learning outcomes.

Table 11. **Mapping against WSSS: detailed profile of car mechanic qualifications**

			Car mechanic assistant (federal VET certificate)	Car mechanic specialist (*Automobil Fachman EBZ*)	VET certificate: passenger car fitter	VET certificate: passenger car mechanic	Level 4 certificate engineering skills	Level 5 certificate motor technology	Motor vehicle repair operator	Engine vehicle repairing technician	VET level 3: secondary vocational education, professional level skilled car mechanic	VET level 4 qualification: secondary vocational education, middle management level technical specialist passenger cars	VET level 3 vocational diploma: certificate of competence in the profession of car mechanic	Vocational diploma: certificate of competence automotive vehicles technician	Technician car mechatronic *técnico de mecatrónica automóvel*	Final examination certificate (lower vocational education, two years): assistant in technology processes	Vocational Matura certificate (secondary technical education, four years): automotive service technician
			CH EQF 3	**CH** EQF 4	**DK** EQF 3	**DK** EQF 4	**IE** EQF 3	**IE** EQF 4	**IT** EQF 3	**IT** EQF 4	**NL** EQF 3	**NL** EQF 4	**PL** EQF 3	**PL** EQF 4 MG18	**PT** EQF 4	**SI** EQF 3	**SI** EQF 4
Worldskills standards specification			**ID8**	**ID9**	**ID15**	**ID16**	**ID35**	**ID36**	**ID40**	**ID41**	**ID52**	**ID53**	**ID56**	**ID59**	**ID60**	**ID62**	**ID64**
WORK ORGANISATION AND MANAGEMENT	The individual needs to know and understand:	The purposes, uses, care, maintenance of all equipment, materials, and chemicals together with their risks and safety implications	■	■	■	■		■	■	■	■	■	■	■	■	■	■
		The difficulties and risks associated with related activities, together with their causes and methods of prevention	■	■	■	■		■	■	■		■	■	■	■		■
		The time management and parameters associated with each activity	■	■	■	■		■	■	■	■	■	■	■	■		■
		Sustainable environment, health, and work safety principles and their application in the work environment	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	The individual shall be able to:	Prepare and maintain a safe, tidy and efficient work station	■	■			■	■	■	■	■	■	■	■	■	■	■
		Prepare self for the tasks in hand, including full regard for health, safety and environment	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
		Plan, prepare, and complete each task within the time available	■	■			■	■	■	■	■	■	■	■	■		■
		Schedule work to maximise efficiency and avoid disruption	■	■	■	■		■	■	■	■	■		■	■	■	■

			CH EQF 3	CH EQF 4	DK EQF 3	DK EQF 4	IE EQF 3	IE EQF 4	IT EQF 3	IT EQF 4	NL EQF 3	NL EQF 4	PL EQF 3	PL EQF 4 MG18	PT EQF 4	SI EQF 3	SI EQF 4
Worldskills standards specification			**ID8**	**ID9**	**ID15**	**ID16**	**ID35**	**ID36**	**ID40**	**ID41**	**ID52**	**ID53**	**ID56**	**ID59**	**ID60**	**ID62**	**ID64**
		Select and use all equipment and materials safely and in compliance with manufacturers' instructions	■	■			■	■	■	■	■	■	■	■	■	■	■
		Clean, store, and test all equipment and materials safely and in compliance with manufacturers' instructions	■	■				■	■	■	■	■	■	■	■		■
		Apply or exceed the health, safety, and environment standards applying to the environment, equipment, and materials	■	■	■	■	■	■	■	■	■	■	■	■	■		■
		Restore the work area and vehicle to an appropriate state and condition	■	■					■	■	■	■	■	■	■		■
COMMUNICATION AND INTERPERSONAL SKILLS	The individual needs to know and understand:	The range and purposes of documentation, including written and technical drawings including schematic and wiring diagrams, in both paper based and electronic forms	■	■			■	■	■	■	■	■	■	■	■	■	■
		The technical language associated with the skill	■	■	■	■	■	■	■	■	■	■	■	■	■		■
		The industry standards required for inspection and fault reporting in oral, written, and electronic formats	■	■	■	■		■	■	■	■	■	■	■	■		■
		The required standards for customer service and care	■	■	■	■		■	■	■		■			■		■
	The individual shall be able to:	Read, interpret, and extract technical data and instructions from workshop manuals in any available format	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
		Communicate in the workplace by written and electronic means, using standard formats	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
		Communicate in the workplace by oral, written, and electronic means to ensure clarity, effectiveness, and efficiency	■	■	■	■	■	■	■	■	■	■	■	■	■		■
		Use a standard range of communication technologies		■	■	■	■	■	■	■	■	■	■	■	■	■	■
		Complete reports and respond to issues and questions arising		■			■	■	■	■	■	■			■		■
		Respond to customers' needs face to face and indirectly		■	■	■		■	■	■		■	■	■	■		■
ELECTRICAL AND MECHANICAL SYSTEMS \AND THEIR INTEGRATION	The individual needs to know and understand:	Spark ignition and compression ignition engine management systems		■		■		■	■	■	■	■	■	■	■		■
		Engine mechanical systems		■	■	■		■	■	■	■	■	■	■	■	■	■
		Hybrid/electric vehicle systems				■			■	■	■	■			■	■	■
		Forced induction, emission and exhaust systems		■	■	■			■	■	■	■	■	■	■		■
		Body electrical and electronic systems		■	■	■		■	■	■	■	■			■		■
		Braking and stability control systems		■	■	■		■	■	■	■	■	■	■	■		■

			CH EQF 3	CH EQF 4	DK EQF 3	DK EQF 4	IE EQF 3	IE EQF 4	IT EQF 3	IT EQF 4	NL EQF 3	NL EQF 4	PL EQF 3	PL EQF 4 MG18	PT EQF 4	SI EQF 3	SI EQF 4
Worldskills standards specification			**ID8**	**ID9**	**ID15**	**ID16**	**ID35**	**ID36**	**ID40**	**ID41**	**ID52**	**ID53**	**ID56**	**ID59**	**ID60**	**ID62**	**ID64**
		Suspension and steering systems		■	■	■		■	■	■	■	■	■	■	■		■
		Drive line systems		■		■		■	■	■	■	■	■	■	■		■
		HVAC systems		■	■	■			■	■	■	■	■	■	■	■	■
		Air bag and safety restraint systems (SRS)		■		■			■	■	■	■	■	■	■		■
		Consumer electronics (entertainment systems ETC)		■		■			■	■	■	■			■	■	■
		How each system is interconnected and can have an effect on other systems		■					■	■	■	■	■	■	■		■
		How sensors and information are shared between various management systems		■		■			■	■	■	■	■	■	■		■
	The individual shall be able to:	Use test equipment to measure, check and diagnose systems for mechanical and/or electronic faults		■	■	■			■	■	■	■	■	■	■		■
		Perform tests to identify and isolate a fault		■	■	■			■	■	■	■	■	■	■		■
INSPECTION AND DIAGNOSIS	The individual needs to know and understand:	The correct use and interpretation of relevant measuring devices and equipment	■	■	■	■		■	■	■	■	■	■	■	■		■
		The principles and applications of all relevant numerical and mathematical calculations		■	■	■	■	■	■	■	■	■	■	■	■		■
		The principles and applications of specialist diagnostic procedures, tooling, and equipment		■				■	■	■		■	■	■	■		■
	The individual shall be able to:	Calibrate and use all measuring devices and equipment (mechanical and electrical) for diagnosis		■	■	■			■	■	■	■	■	■	■		■
		Determine the precise location of component faults within a range of light vehicle systems		■	■	■			■	■	■	■	■	■	■		■
		Select and apply the appropriate devices and equipment to make inspections and diagnose deficiencies and faults to: spark ignition systems, compression ignition systems, forced induction, emission and exhaust systems, body electrical/electronic systems, braking and stability control systems, suspension and steering systems, drive line systems		■	■	■		■	■	■	■	■	■	■	■		■
		Calculate, check, and interpret results as required		■	■	■		■	■	■	■	■	■	■	■		■
		Review the options for repair or replacement							■	■	■	■	■	■	■		■

			CH EQF 3	CH EQF 4	DK EQF 3	DK EQF 4	IE EQF 3	IE EQF 4	IT EQF 3	IT EQF 4	NL EQF 3	NL EQF 4	PL EQF 3	PL EQF 4 MG18	PT EQF 4	SI EQF 3	SI EQF 4
Worldskills standards specification			**ID8**	**ID9**	**ID15**	**ID16**	**ID35**	**ID36**	**ID40**	**ID41**	**ID52**	**ID53**	**ID56**	**ID59**	**ID60**	**ID62**	**ID64**
REPAIR, OVERHAUL AND SERVICE	The individual needs to know and understand:	The options for repair or replacement							■	■	■	■	■	■	■		■
		Repair methods/procedures, special tool requirements		■	■	■			■	■	■	■	■	■	■		■
		Effects on other vehicle systems and associated repair work		■	■	■			■	■		■	■	■	■		■
	The individual shall be able to:	Use manufacturers' and component suppliers' specification as required	■	■	■	■			■	■	■	■	■	■	■		■
		Construct, justify and communicate appropriate proposals and decisions regarding repair or replacement							■	■	■	■		■	■		■
		Use correct procedures for securing replacement parts	■	■	■	■			■	■	■	■	■	■	■		■
		Repair vehicle electrical systems and electrical circuits, repair/overhaul charging, and starting systems		■	■	■			■	■	■	■			■		■
		Repair/overhaul hydraulic braking systems (disc and drum) and/or associated components, including hand or parking brake	■	■	■	■			■	■	■	■	■	■	■		■
		Repair electronically controlled antilock brakes and stability control systems		■	■	■			■	■	■	■			■		■
		Remove/overhaul driveline components		■		■			■	■	■	■	■	■	■		■
		Repair/overhaul steering systems/components, including mechanical, electrical, and hydraulic power assisted steering systems	■	■		■			■	■	■	■	■	■	■		■
		Repair suspension systems and associated components	■	■	■	■			■	■	■	■	■	■	■		■
		Carry out steering wheel alignment operations	■	■	■	■			■	■	■	■	■	■	■		■
		Repair/overhaul four stroke engines and associated engine components		■	■	■			■	■	■	■	■	■	■		■
		Repair/overhaul manual/automatic transaxles/transmissions and components		■	■	■			■	■	■	■	■	■	■		■
		Repair diesel fuel systems including electronic compression ignition engine management systems and associated components		■	■	■			■	■	■	■	■	■	■		■

Source: Case studies.

Comparing the profile of car mechanic qualifications allows identifying a set of 18 WSSS items included in at least 13 out of the 15 qualifications. Table 12lists these items.

Table 12. **Mapping against WSSS: common core of WSSS items**

Work organisation and management
• Know and understand sustainable environment, health, and work safety principles and their application in the work environment • Know and understand the purposes, uses, care, maintenance of all equipment, materials, and chemicals together with their risks and safety implications • Be able to prepare self for the tasks in hand, including full regard for health, safety and environment • Be able to apply or exceed the health, safety, and environment standards applying to the environment, equipment, and materials • Know and understand the time management and parameters associated with each activity • Be able to prepare and maintain a safe, tidy and efficient work station • Be able to schedule work to maximise efficiency and avoid disruption • Be able to select and use all equipment and materials safely and in compliance with manufacturers' instructions
Communication and interpersonal skills
• Know and understand the technical language associated with the skill • Know and understand the range and purposes of documentation, written and technical drawings including schematic and wiring diagrams, in both paper-based and electronic forms • Know and understand the industry standards required for inspection and fault reporting in oral, written and electronic formats • Be able to read, interpret and extract technical data and instructions from workshop manuals in any available format • Be able to communicate in the workplace by written and electronic means, using standard formats • Be able to communicate in the workplace by oral, written, and electronic means to ensure clarity, effectiveness and efficiency • Be able to use a standard range of communication technologies
Electrical and mechanical systems and their integration
• Know and understand engine mechanical systems
Inspection and diagnosis
• Know and understand the correct use and interpretation of relevant measuring devices and equipment • Know and understand the principles and applications of all relevant numerical and mathematical calculations

Source: Case studies.

Table 13. **Other learning outcomes identified but not covered in the WSSS list**

EQF level	Other learning outcomes identified ([164])
CH	
EQF 3	**Work organisation and management:** • Capability of interconnecting job processes and act coherently with them **Communication and interpersonal skills:** • Capability to reflect and learn • Capability of managing conflicts • Capability of working in a team • Capability of coping with stress • Capability of reacting in a positive and proactive way to critical remarks
EQF 4	**Work organisation and management:** • Capability of interconnecting job processes and act coherently with them **Communication and interpersonal skills:** • Capability to reflect and learn • Capability of managing conflicts • Capability of working in a team • Capability of coping with stress • Capability of reacting in a positive and proactive way to critical remarks
DK	
EQF 3	**Work organisation and management:** • Knowledge about work-related ergonomics • Be able to be environmentally conscious while working and support ecologically sustainable development • Course in firefighting • First aid course **Communication and interpersonal skills:** • Be able to read technical manuals in Danish and in one foreign language • Be able to work in teams **Electrical and mechanical systems and their integration:** • Knowledge about environmental questions and technological aspect in relation to hybrid/electrical cars **Repair, overhaul and service:** • Repair damage from thrown-up pebbles **Unassigned:** • Knowledge about entrepreneurship and innovation

([164]) For some additional items mentioned, it is not clear whether they can be considered as additional, i.e. whether they are or are not covered by the WSSS items. Examples include 'course in firefighting' or 'first-aid course', which could possibly be covered in the item on health and work safety principles; 'repair ABS, TCS…' could possibly be covered in the WSSS item on 'repair electronically controlled antilock brakes and stability control systems'.

EQF level	Other learning outcomes identified ([164])
EQF 4	**Work organisation and management:** • Be able to be environmentally conscious while working and support ecologically sustainable development • Knowledge about work-related ergonomics • Course in firefighting • First aid course • Be able to work in teams **Communication and interpersonal skills:** • Be able to read technical manuals in Danish and in one foreign language • Knowledge about international conditions that apply in the passenger car industry **Electrical and mechanical systems and their integration:** • Knowledge about environmental questions and technological aspect in relation to hybrid/electrical cars • Knowledge about Controller-Area-Network (CAN bus) **Repair, overhaul and service:** • Repair damage from thrown-up pebbles • Repair ABS (anti blocking system), TCS (traction control systems) and ESP (electronic stability programme) • Troubleshooting and repair on passenger car electronic systems based on knowledge about both digital and analogue electronics as well as measurement techniques **Unassigned:** • Knowledge about entrepreneurship and innovation • Knowledge about technological development and innovation
IE	
EQF 3	No major award at EQF3 directly relates to car mechanics; engineering skills has been used. Additional learning outcomes are not listed here as they do not relate to car mechanics
EQF 4	These additional learning outcomes are specified for the overarching award. Considerably more specific learning outcomes are identified in units of the award, some mandatory and some elective. **Work organisation and management:** • Demonstrate a broad range of workshop procedures currently utilised in the motor technology sector to include safe use of hand tools, power tools and test equipment • Apply knowledge and skills within a mechanical workshop environment, while engaging with a range of varied contexts relevant to the motor technology sector **Communication and interpersonal skills:** • Exercise and direct initiatives in a mechanical workshop environment while recognising the importance of teamwork and partnership with all stakeholders • Demonstrate an ability to direct and evaluate personal learning initiatives **Electrical and mechanical systems and their integration:** • Demonstrate knowledge of theoretical concepts related to motor technology in system design, component function and component efficiency, with significant depth in certain areas

EQF level	Other learning outcomes identified ([164])
	Inspection and diagnosis: • Demonstrate a broad range of knowledge on diagnostic, maintenance and installation procedures on electronic and mechanical components, relevant to the motor technology sector **Repair, overhaul and service:** • Exercise judgment in selecting appropriate maintenance strategies and fault-finding procedures in relation to the motor technology sector **Unassigned:** • Reflect on personal values and display an insight into the role of the motor technology sector in the broader community
NL	
EQF 3	**Work organisation and management:** • Carries out residual material and waste disposal according to regulations • Works according to the company's operating procedures and instructions • Works within the set time, carefully and precisely with appropriate (hand) tools and (measuring) equipment and puts them to use in an efficient manner • Works in a logical and efficient order **Communication and interpersonal skills:** • Can read relevant English texts in his field • Registers the work performed, deviations and used parts, materials and damage (measurement/help) tools accurately **Electrical and mechanical systems and their integration:** • Has knowledge of the technical provisions for reducing fuel consumption and harmful emissions on passenger cars
EQF 4	**Work organisation and management:** • Registers the work performed, deviations and used parts, materials and damage (measurement/help) tools accurately; notes the vehicle data carefully and completely • Carries out residual material and waste disposal according to regulations • Works according to the company's operating procedures and instructions • Works within the set time, carefully and precisely with appropriate (hand) tools and (measuring) equipment and puts them to use in an efficient manner • Works in a logical and efficient order **Communication and interpersonal skills:** • Can read relevant English texts in his field **Electrical and mechanical systems and their integration:** • Possesses broad and specialised knowledge of alternative driving and fuel concepts in passenger cars • Possesses broad and specialised knowledge of the technical provisions for reducing fuel consumption and the harmful emissions of passenger cars
PT	
EQF 4	**Communication and interpersonal skills:** • Some notion of English/other foreign language **Unassigned:** • Adaptability to new technologies

EQF level	Other learning outcomes identified ([164])
SI	
EQF 3	**Unassigned:** • Manually process materials • Recognise the importance of basic technological parameters • Carry out simple procedures for the joining of materials • Measure basic technical parameters and dimensions using measuring devices • Carry out continual maintenance and minor servicing of machinery, equipment and devices • Take part in the maintenance and troubleshooting of components of machines and devices • Demonstrate mastery of procedures to ensure that machines function efficiently • Take part in repairing, testing and checking the functioning of machinery, equipment and devices • Set up and start machinery, equipment and devices and provide basic monitoring of their functioning during the work process • Select tools and fix work pieces in place during machining of metals • Check products during individual phases of shaping of metals and alloys • Prepare furnaces, machines, devices and tools for forming metals • Make casting moulds and cores and clean castings • Carry out basic electrical installation and assembly work in building • Participate in implementing installation connections and the connection of electricity consumers and protective components • Participate in the connection, assembly and maintenance of mechatronic systems • Build simple switching control devices • Prepare primers and prepare surfaces for painting • Carry out mechanical and chemical removal of protective coatings and corrosion and protect surfaces • Apply and maintain coating agents

Source: Case studies.

Table 14. **Comparison of coverage scores, different mappings**

Coverage scores	CH		DK		IE		IT		NL		PL		PT	SI		Av.	Median
	EQF 3	EQF 4	EQF 3	EQF 4	EQF 3	EQF 4	EQF 3	EQF 4	EQF 3	EQF 4	EQF 3	EQF 4	EQF 4	EQF 3	EQF 4		
WSSS	43%	93%	67%	80%	23%	52%	100%	100%	**92%**	**100%**	85%	89%	**100%**	23%	100%	**77%**	**89%**
ESCO occupational	45%	89%	66%	69%	9%	74%	77%	82%	75%	77%	75%	88%	82%	26%	100%	**69%**	**75%**
ESCO total	47%	80%	44%	45%	12%	54%	75%	77%	**50%**	**56%**	75%	85%	**50%**	18%	88%	**57%**	**54%**
ESCO total without digital	51%	87%	59%	61%	17%	71%	70%	73%	70%	78%	74%	88%	73%	24%	100%	**66%**	**71%**
Median coverage of ESCO occupation specific – EQF 3: 66% (n=7)																	
Median coverage of ESCO occupation specific – EQF 4: 82% (n=8)																	

NB: Examples of large differences in coverage (more than 40 percentage points) between the mappings are highlighted in bold.

Source: Case studies.

Table 15. **Mapping against ESCO occupation-specific learning outcomes: detailed profile of car mechanic qualification**

Structure	KSC preferred title	CH EQF 3 Car mechanic assistant (federal VET certificate) ID8	CH EQF4 Car mechanic specialist *(Automobil Fachman EBZ)* ID9	DK EQF3 VET certificate: passenger car fitter ID15	DK EQF4 VET certificate: passenger car mechanic ID16	IE EQF3 Level 4 certificate engineering skills ID35	IE EQF4 Level 5 certificate motor technology ID36	IT EQF3 Motor vehicle repair operator ID40	IT EQF4 Engine vehicle repairing technician ID41	NL EQF3 VET level 3: secondary vocational education, professional level skilled car mechanic ID52	NL EQF 4 VET level 4 qualification: secondary vocational education, middle management level technical specialist passenger cars ID53	PL EQF 3 VET level 3 vocational diploma: certificate of competence in the profession of car mechanic ID56	PL EQF 4 MG18 Vocational diploma: certificate of competence automotive vehicles technician ID59	PT EQF 4 Technician car mechatronic *técnico de mecatrónica automóvel* ID60	SI EQF 3 Final examination certificate (lower vocational education, two years): assistant in technology processes ID62	SI EQF 4 Vocational Matura certificate (secondary technical education, four years): automotive service technician ID64
WORK ORGANISATION AND MANAGEMENT	Apply health and safety standards	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Wear appropriate protective gear	■	■			■	■	■	■	■	■	■	■	■		■
	Follow control of substances hazardous to health procedures	■	■				■	■	■			■	■	■		■
	Health and safety measures in transportation	■	■				■	■	■			■	■	■		■
	Perform technical tasks with great care	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Maintain work area cleanliness	■	■			■	■	■	■	■	■	■	■	■	■	■
	Keep stock records	■	■	■	■			■	■				■	■		■
	Order supplies		■	■	■			■	■				■	■		■
	Maintain vehicle records	■	■	■	■		■	■	■	■	■	■	■	■		■
	Maintain professional records	■	■	■	■		■	■	■	■	■	■	■			■
	Provide customer information related to repairs		■	■	■		■	■	■			■	■	■		■
	Identify customer's needs		■	■	■		■	■	■			■	■	■		■
	Ensure customer focus	■	■	■	■		■	■	■							■
	Maintain customer records			■	■		■	■	■				■			■

		CH EQF 3	CH EQF4	DK EQF3	DK EQF4	IE EQF3	IE EQF4	IT EQF3	IT EQF4	NL EQF3	NL EQF 4	PL EQF 3	PL EQF 4 MG18	PT EQF 4	SI EQF 3	SI EQF 4
Structure	**KSC preferred title**	**ID8**	**ID9**	**ID15**	**ID16**	**ID35**	**ID36**	**ID40**	**ID41**	**ID52**	**ID53**	**ID56**	**ID59**	**ID60**	**ID62**	**ID64**
	Provide customer follow-up services						■						■			■
	Ensure compliance with warranty contracts	■	■							■	■		■			■
	Issue sales invoices						■	■	■			■	■			■
	Follow given instructions	■	■	■	■		■	■	■	■	■	■	■	■	■	■
	Perform manual work autonomously	■	■	■	■		■	■	■	■	■	■	■	■		■
	Teamwork principles	■	■	■	■	■	■		■	■	■		■	■	■	■
	Think analytically	■	■				■		■	■	■	■	■	■		■
	Maintain updated professional knowledge	■	■						■	■	■	■	■	■		■
	Adapt to new technology used in cars	■	■	■	■			■	■		■	■	■	■		■
	Have computer literacy	■	■	■	■		■	■	■	■	■	■	■		■	■
	Use traditional toolbox tools	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Lift heavy weights	■	■											■		■
	Drive vehicles		■							■	■	■	■	■		■
ELECTRICAL AND MECHANICAL SYSTEMS AND THEIR INTEGRATION	Types of vehicles	■	■				■	■	■	■	■			■		■
	Types of vehicle engines		■					■	■	■	■					■
	Operation of different engines		■	■	■		■	■	■	■	■	■	■			■
	Mechanics		■	■	■		■	■	■	■	■	■	■	■		■
	Mechanical components of vehicles		■	■	■		■	■	■	■	■	■	■	■		■
	Principles of mechanical engineering		■	■	■		■	■	■	■	■	■	■	■		■
	Mechanical requirements for vehicles in urban areas		■		■		■			■	■			■		■
	Vehicle electrical systems		■	■	■		■			■	■	■	■	■		■
	Electrical wiring plans		■	■	■		■			■	■	■	■	■		■
	Engine components		■	■	■		■	■	■	■	■	■	■	■		■
	Components of air conditioning systems		■	■	■					■	■	■	■	■	■	■
	Emission standards		■		■		■			■	■		■	■		■

		CH EQF 3	CH EQF4	DK EQF3	DK EQF4	IE EQF3	IE EQF4	IT EQF3	IT EQF4	NL EQF3	NL EQF 4	PL EQF 3	PL EQF 4 MG18	PT EQF 4	SI EQF 3	SI EQF 4
Structure	**KSC preferred title**	**ID8**	**ID9**	**ID15**	**ID16**	**ID35**	**ID36**	**ID40**	**ID41**	**ID52**	**ID53**	**ID56**	**ID59**	**ID60**	**ID62**	**ID64**
INSPECTION AND DIAGNOSIS	Car controls	■	■	■	■		■	■	■	■	■	■	■	■		■
	Automotive diagnostic equipment	■	■	■	■		■	■	■	■	■	■	■	■		■
	Use automotive diagnostic equipment		■	■	■		■	■	■	■	■	■	■	■		■
	Diagnose problems with vehicles			■	■		■	■	■	■	■	■	■	■		■
	Perform road testing		■							■	■	■	■	■		■
	Perform vehicle tests	■	■	■	■		■	■	■	■	■	■	■	■		■
	Detect malfunctions in engines		■				■	■	■	■	■	■	■	■		■
	Repair vehicle electrical systems		■	■	■		■			■	■			■	■	■
	Perform annual legal safety checks		■	■	■			■	■				■	■		■
REPAIR, OVERHAUL AND SERVICE	Position vehicles for maintenance and repair	■	■				■	■	■	■	■	■	■	■	■	■
	Carry out repair of vehicles		■	■	■		■	■	■	■	■	■	■	■	■	■
	Perform minor vehicle repairs		■	■	■		■	■	■	■	■	■	■	■	■	■
	Carry out repairs and maintenance of vehicle bodies			■	■			■	■	■	■	■	■	■	■	■
	Disassemble engines		■	■	■			■	■	■	■	■	■	■		■
	Repair engines		■	■	■		■	■	■	■	■	■	■	■	■	■
	Lubricate engines		■	■	■		■	■	■	■	■	■	■	■		■
	Adjust tightness of engine parts		■	■	■		■	■	■	■	■	■	■	■		■
	Carry out repair of motorcycles							■	■							■
	Maintain electrical engines		■	■	■		■			■	■	■	■	■	■	■
	Maintain braking system	■	■	■	■		■	■	■	■	■	■	■	■		■
	Maintain motor vehicle steering system		■	■	■		■	■	■	■	■	■	■	■		■
	Maintain suspension system	■	■	■	■		■	■	■	■	■	■	■	■		■
	Maintain vehicle appearance	■	■					■	■	■	■	■	■	■	■	■
	Fix minor vehicle scratches							■	■			■	■		■	■
	Replace tyres	■	■	■	■		■	■	■	■	■	■	■	■		■
	Perform ICT troubleshooting		■					■	■							■

Source: Case studies.

Comparing the profile of car mechanic qualifications allows identifying a set of 18 ESCO occupation-specific KSC items (out of 65) items included in at least 13 out of the 15 qualifications. Table 16lists these items.

Table 16. **Mapping against ESCO occupation-specific KSC: common core of items**

• Apply health and safety standards
• Perform technical tasks with great care
• Use traditional toolbox tools
• Follow given instructions
• Maintain work area cleanliness
• Maintain vehicle records
• Perform manual work autonomously
• Teamwork principles
• Have computer literacy
• Car controls
• Automotive diagnostic equipment
• Perform vehicle tests
• Carry out repair of vehicles
• Perform minor vehicle repairs
• Repair engines
• Maintain braking system
• Maintain suspension system
• Replace tyres

Source: Case studies.

Table 17. **Mapping against ESCO transversal learning outcomes: detailed profile of car mechanic qualifications**

KSC type		KSC title	Car mechanic assistant (federal VET certificate)	Car mechanic specialist (*Automobil Fachman EBZ*)	VET certificate: passenger car fitter	VET certificate: passenger car mechanic	Level 4 certificate engineering skills	Level 5 certificate motor technology	Motor vehicle repair operator	Engine vehicle repairing technician	VET level 3: secondary vocational education, professional level skilled car mechanic	VET level 4 qualification: secondary vocational education, middle management level technical specialist passenger cars	VET level 3 vocational diploma: certificate of competence in the profession of car mechanic	Vocational diploma: certificate of competence automotive vehicles technician	Technician car mechatronic *técnico de mecatrónica automóvel*	Final examination certificate (lower vocational education, two years): assistant in technology processes	Vocational Matura certificate (secondary technical education, four years): automotive service technician
			CH EQF 3	**CH** EQF 4	**DK** EQF 3	**DK** EQF 4	**IE** EQF 3	**IE** EQF 4	**IT** EQF 3	**IT** EQF 4	**NL** EQF 3	**NL** EQF 4	**PL** EQF 3	**PL** EQF 4	**PT** EQF 4	**SI** EQF 3	**SI** EQF 4
			ID8	**ID9**	**ID15**	**ID16**	**ID35**	**ID36**	**ID40**	**ID41**	**ID52**	**ID53**	**ID56**	**ID59**	**ID60**	**ID62**	**ID64**
APPLICATION OF KNOWLEDGE	Health and safety	Follow environmentally sustainable work practices	■	■	■	■		■	■	■	■	■	■	■	■	■	■
		Follow hygienic work practices	■	■				■	■	■	■	■	■	■	■		■
		Follow safety precautions in work practices	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Digital competences	Computer programming											■	■			■
		Copyright and licenses related to digital content											■	■			
		Develop digital content															
		Use presentation software	■	■				■					■	■			■
		Use spreadsheets software	■	■									■	■			■
		Use word processing software	■	■				■					■	■			■
		Integrate and re-elaborate digital content		■	■	■							■	■			
		Collaborate through digital technologies	■	■	■	■			■	■			■	■			
		Engage in citizenship through digital technologies							■	■			■	■			
		Interact through digital technologies		■	■	■		■	■	■			■	■			■
		Manage digital identity		■					■	■			■	■			
		Share through digital technologies	■	■				■	■	■			■	■			■

KSC type		KSC title	CH EQF 3 ID8	CH EQF 4 ID9	DK EQF 3 ID15	DK EQF 4 ID16	IE EQF 3 ID35	IE EQF 4 ID36	IT EQF 3 ID40	IT EQF 4 ID41	NL EQF 3 ID52	NL EQF 4 ID53	PL EQF 3 ID56	PL EQF 4 ID59	PT EQF 4 ID60	SI EQF 3 ID62	SI EQF 4 ID64
		Use e-services		■					■	■			■	■			■
		Use online communication tools	■	■	■	■		■	■	■	■	■	■	■		■	■
		Use online conventions of netiquette		■				■	■	■			■	■			■
		Use online tools to collaborate	■	■					■	■			■	■			■
	Digital data processing	Browse, search and filter data, information and digital content															
		Search for information online	■	■	■	■		■	■	■	■	■	■	■		■	■
		- Use *Bing*		■					■	■			■	■			■
		- Use *Google* search		■					■	■			■	■			■
		- Use *Swoogle*		■					■	■			■	■			■
		- Use *Yahoo!* search		■					■	■			■	■			■
		Evaluate data, information and digital content		■					■	■	■	■	■	■			■
		Manage data, information and digital content															
		Manage digital documents	■	■					■	■			■	■			■
		Store digital data and systems	■	■					■	■			■	■			■
		Use databases	■	■					■	■			■	■			■
		- Use an application-specific interface	■	■					■	■			■	■			■
		- Use query languages	■	■					■	■			■	■			■
	ICT safety	Protect ICT devices															
		Implement ICT safety policies							■	■			■	■			
		Implement a firewall							■	■							
		Implement a virtual private network							■	■							
		Implement anti-virus software							■	■			■	■			
		Implement spam protection							■	■			■	■			
		Remove computer virus or malware from a computer							■	■							
		Use back-up and recovery tools							■	■							
		Safeguard online privacy and identity	■						■	■			■	■			
		Protect personal data and privacy	■	■					■	■			■	■			
		Protect health and well-being while using digital technologies	■	■					■	■			■	■			
		Protect the environment from the impact of the digital technologies	■	■					■	■			■	■			

KSC type			KSC title	CH EQF 3 ID8	CH EQF 4 ID9	DK EQF 3 ID15	DK EQF 4 ID16	IE EQF 3 ID35	IE EQF 4 ID36	IT EQF 3 ID40	IT EQF 4 ID41	NL EQF 3 ID52	NL EQF 4 ID53	PL EQF 3 ID56	PL EQF 4 ID59	PT EQF 4 ID60	SI EQF 3 ID62	SI EQF 4 ID64
		Problem-solving with digital tools	Carry out practical tasks with smart devices		■					■	■							■
			Creatively use digital technologies							■	■			■	■			
			Identify digital competence gaps							■	■			■	■			■
			Identify needs and technological responses															
			Use digital device operating systems		■					■	■			■	■			■
			Use personal organisation software		■					■	■							■
			Make use of personal robots for practical support							■	■							
			Operate handheld devices							■	■							■
			Solve location and navigation problems by using GPS tools		■					■	■							■
			Solve technical problems							■	■							■
			Use ICT peripherals	■	■				■	■	■			■	■			■
		Numeracy/ mathematics	Carry out work-related calculations	■	■	■	■	■	■	■	■	■	■	■	■	■		■
			Carry out work-related measurements	■	■	■	■	■	■	■	■	■	■	■	■	■		■
			Communicate mathematical information	■	■	■	■	■	■				■	■	■	■		■
			Manage quantitative data	■	■				■			■	■	■	■			■
			Use mathematical tools and equipment	■	■				■	■	■			■	■	■		■
			Work with shape and space	■	■			■	■					■	■			■
		Working environment	Apply quality standards	■	■	■	■			■	■	■	■		■	■		■
			Support company plan	■	■	■	■			■	■	■	■			■		■
			Support cultural diversity							■	■			■	■			■
			Support gender equality							■	■			■	■			■
LANGUAGE			Foreign language		■	■	■			■	■	■	■	■	■	■		■
			Mother tongue	■	■	■	■	■	■	■	■	■	■	■	■		■	■

		CH EQF 3	CH EQF 4	DK EQF 3	DK EQF 4	IE EQF 3	IE EQF 4	IT EQF 3	IT EQF 4	NL EQF 3	NL EQF 4	PL EQF 3	PL EQF 4	PT EQF 4	SI EQF 3	SI EQF 4
KSC type	**KSC title**	**ID8**	**ID9**	**ID15**	**ID16**	**ID35**	**ID36**	**ID40**	**ID41**	**ID52**	**ID53**	**ID56**	**ID59**	**ID60**	**ID62**	**ID64**
SOCIAL INTERACTION	Accept constructive criticism	■	■			■	■	■	■			■	■	■		■
	Address an audience			■	■		■	■	■			■	■			■
	Demonstrate intercultural competence											■	■		■	■
	Give advice to others	■	■				■			■	■	■	■	■		■
	Instruct others						■			■	■		■	■		■
	Interact with others	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Lead others			■	■					■	■		■			■
	Motivate others			■	■						■		■			■
	Negotiate compromise	■	■				■				■		■			■
	Persuade others		■				■				■	■	■			■
	Report facts	■	■	■	■	■	■	■	■	■	■			■		■
	Support colleagues		■				■			■	■		■	■		■
	Use body language	■	■					■	■							■
	Use questioning techniques	■	■							■	■			■		■
	Work in teams	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
THINKING	Develop strategy to solve problems		■	■	■		■	■	■	■	■	■	■	■	■	■
	Evaluate information		■	■	■		■	■	■	■	■	■	■	■		■
	Identify opportunities		■								■			■		■
	Make decisions		■				■			■	■	■	■	■		■
	Manage time	■	■	■	■		■	■	■	■	■	■	■	■		■
	Memorise information	■	■			■	■	■	■	■	■	■	■		■	■
	Process qualitative information	■	■					■	■	■	■	■	■			■
	Think creatively		■								■	■	■			■
	Use learning strategies	■	■			■	■				■	■	■			■

Source: Case studies.

Table 18. **Mapping against ESCO transversal learning outcomes: overview profile of qualifications**

ESCO	CH		DK		IE		IT		NL		PL		PT	SI		Av.	Median
	EQF 3	EQF 4	EQF 3	EQF 4	EQF 3	EQF 4	EQF 3	EQF 4	EQF 3	EQF 4	EQF 3	EQF 4	EQF 4	EQF 3	EQF 4		
Coverage transversal items	49%	73%	27%	27%	14%	40%	74%	74%	31%	40%	76%	83%	27%	12%	79%	48%	40%
Median coverage of transversal learning outcomes - EQF 3 qualifications: 31% (n=7)																	
Median coverage of transversal learning outcomes - EQF 4 qualifications: 56% (n=8)																	

Average coverage of ESCO transversal learning outcomes by area:

Health and safety	89%
Digital competences	37%
Numeracy/mathematics	70%
Working environment	52%
Language	83%
Social interaction	53%
Thinking	62%

Source: Case studies.

Table 19. **Mapping against ESCO transversal learning outcomes and ESCO occupation-specific learning outcomes combined: overview profile of qualifications**

ESCO	CH		DK		IE		IT		NL		PL		PT	SI		Av.	Median
	EQF 3	EQF 4	EQF 3	EQF 4	EQF 3	EQF 4	EQF 3	EQF 4	EQF 3	EQF 4	EQF 3	EQF 3	EQF 4	EQF 3	EQF 4		
Total coverage	47%	80%	44%	45%	12%	54%	75%	77%	50%	56%	75%	85%	50%	18%	88%	57%	54%
Average coverage EQF 3 qualifications: 46% Median coverage EQF 3 qualifications: 47% (n=7)																	
Average coverage EQF 4 qualifications: 67% Median coverage EQF 4 qualifications: 67% (n=8)																	

Source: Case studies

European qualifications framework

Initial vocational education and training: focus on qualifications at levels 3 and 4

The European qualifications framework (EQF), with its eight levels, serves as a translation grid between qualifications acquired in different European countries. Part of Cedefop's work to make qualifications easier to understand and compare, this study takes a closer look at those acquired through initial VET and assigned to EQF levels 3 and 4 via national classifications and frameworks. It explores what they have in common and in what way they differ. It looks at their purpose and value on the labour market or for further learning, and how they are assigned to the national qualifications frameworks (NQFs) and EQF levels. It also sheds light on the different weighting of occupational and transversal skills and competences and levels of complexity, and between qualifications at both levels within the same occupational area; these issues are not that often examined. While it confirms that describing the intended outcomes of learning improves understanding and eases comparison of vocational qualifications, the study highlights other aspects that are equally important, such as their currency and value on the labour market and in further learning.

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