

JRC TECHNICAL REPORT

Adapting the SELFIE tool for work-based learning systems in Vocational Education and Training

A feasibility study

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Foreword

SELFIE is an online self-reflection tool developed by DG Joint Research Centre (JRC) and DG Education, Youth, Sport and Culture (DG EAC) to help schools (general and vocational) see how they are making use of digital technologies for teaching and learning and to plan for improvement. It was launched in October 2018 and is now available in over 30 languages so schools all over the world can use it. However, education and training take place in many different settings, not only in school institutions. In particular in vocational education and training, an important part of the learning process takes place in the workplace and requires very good coordination between the school and the training companies. Building on the exploratory work carried out in 2019, the aim of the current report is therefore to draw key conclusions on the feasibility of adapting SELFIE to work-based learning systems in Europe.

The current report has been drafted by the JRC, supported by external experts, on behalf of DG Employment, Social Affairs and Inclusion. It is part of JRC research on "Learning, Skills and Employment challenges for the Digital Era". This includes research on digital competence frameworks for citizens (DigComp), educators (DigCompEdu), educational organisations (DigCompOrg) and the competence framework for Life Skills (LifeComp), amongst others.

SELFIE for work-based learning systems in vocational education and training (VET) is an excellent example of cooperation between Commission services and VET stakeholders to test and adapt a digital tool to improve digital learning and digital skills for the benefit of end-users. Such a tool could play a key role in taking forward our mission to develop policies that help empower citizens with the skills they need, including digital aptitudes. This will enable them to play an active role in society and in the economy, as well as to improve the effectiveness, quality and attractiveness of vocational education and training and adult education across the EU.

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Executive summary

Background

SELFIE (Self-reflection on Effective Learning by Fostering the use of Innovative Educational technologies) is an online self-reflection tool to help schools see how they are using digital technologies for teaching and learning, and plan for improvement. It is one of the 11 actions outlined in the Digital Education Action Plan adopted by the European Commission in January 2018 in order to support technology use and the development of digital competences in education. Teachers, students and school leaders answer – anonymously – a series of questions and statements on technology use in different areas of school life and practice (e.g. infrastructure, student digital skills, leadership and assessment). As a result, the school gets a customised report with data and insights into what is working well and what could be improved in the school. This report, to which only the school has access, can help the school community to discuss its approach to embedding technology and developing digital skills for staff and students.

SELFIE has been developed by the European Commission in collaboration with education experts, ministries of education and research institutes. It is based on the conceptual framework for Digitally Competent Educational Organisations (DigCompOrg). The tool, launched in October 2018, is now available in over 30 languages and any school in the world can use it. Participation in SELFIE is free of charge. Every school can adapt the questionnaire and even add new questions so that SELFIE suits its needs. Since its launch (October 2018 – December 2019), the tool has been used by more than 540,000 staff and students from over 5,500 schools in 47 countries.

Until now, SELFIE has been designed to be used by schools offering general education (primary and secondary), vocational schools (secondary), and post-secondary non-tertiary educational institutions. However, the organisation of education processes in Vocational Education and Training (VET) differs significantly from the ones in general education. Notably, a key feature of VET is that a very significant proportion of educational time is dedicated to learning skills in work-based learning (WBL) contexts, either at the workplace or in an educational or training institution. The current SELFIE tool does not accommodate application in WBL contexts.

Objective and approach to the feasibility study

The objective is to conduct a feasibility study in view of adapting SELFIE to work-based learning systems in Europe. The aim of this exercise is to explore to what extent, and with what scope the SELFIE could also be meaningfully used in the context of VET and WBL, including apprenticeships or dual VET.

The feasibility study combined desk research and consultation with stakeholders. The consultation consisted of a first round of semi-structured interviews with key stakeholders from Europe and beyond, and a second round of semi-structured interviews with WBL stakeholders (VET institutions, companies) in Austria, Finland, France, Germany, Greece, Italy, the Netherlands, Romania and Spain. Furthermore, a short online survey was launched to provide a wider group of stakeholders with the opportunity to provide input. Fifteen stakeholders took the opportunity to provide feedback. The feasibility study was conducted in cooperation with the European Commission's Joint Research Centre (JRC) and supported by a steering committee — JRC, Directorate-General for Employment (DG EMPL), Cedefop, European Training Foundation (ETF) — and the Directorate-General for Education and Culture (DG EAC).

Conclusions on feasibility and implications

The feasibility study concludes that it is feasible to adjust SELFIE to work-based learning in VET.

Given on the one hand the number of learners in VET and work-based learning programmes, the number of VET institutions and the number of companies involved in work-based learning, and on the other hand the EU-wide attention to work-based learning and digital technology in education, there is large potential for the SELFIE tool to be applied widely in VET and more specifically in work-based learning. The study did not find any other tools in work-based learning that provide the same results. In addition, the interviewees indicated that there is a need for a SELFIE for work-based learning, especially to bring VET institutions and companies closer in discussing how they jointly embed digital technology in the education and training provided.

The feasibility of adjusting SELFIE to work-based learning should be done using a 'phased' approach.

This means firstly allowing accommodation, with minimal changes, to the majority of work-based learning settings in formal VET; and secondly exploring more fundamental changes to cater for settings that are less widespread but are quintessentially apprenticeships.

The feasibility study identified and discussed two modalities.

- Modality 1: VET schools and companies cooperate, and both need to be involved in filling in the SELFIE tool (the self-reflection crosses institutional boundaries and is not limited to being filled in by one institution) → VET schools coordinate the self-reflection exercise.
- Modality 2: Companies are the main learning venues (i.e. the majority of learning takes place in companies) → companies coordinate the self-reflection exercise.

The study concluded that modality 1 is the most realistic for adjustment of SELFIE. Phase 1 should therefore focus on modality 1. The interviewees saw most value in this modality, and indicated that it will be challenging enough to have companies participate in this modality, let alone have them conduct the SELFIE exercise on their own behalf. Furthermore, interviewees indicated that one of the overarching goals of SELFIE could be to start the dialogue between VET institutions and companies on digital technology embeddedness in teaching and learning. This could be facilitated best if both VET institutions and companies are involved in the same assessment. Finally, interviewees advised not to be too ambitious in adjusting SELFIE to the work-based learning context: they proposed limited changes to make SELFIE fit.

However, it is still considered relevant (including by the interviewees) to further explore the possibility of adjusting SELFIE to modality 2. A second phase should therefore focus on modality 2. This could be based on initial experiences with companies using modality 1, and testing with them the possibilities of having companies take up the coordination role. This further exploration could also review the DigCompOrg framework underlying SELFIE, to adjust this to companies. In addition, consideration could be given to expanding the SELFIE methodology of self-reflection to other topics of interest to the (VET) community; further expansion into continuing VET (CVET) and lifelong learning, including non-formal learning, should also be considered on the basis of experiences with modalities 1 and 2.

Modality 1 does not require a fundamental change in the setup of SELFIE. The following adjustments are however proposed.

Add a fourth questionnaire

Currently, the SELFIE questionnaires target school leaders, teachers and students. In involving companies, a fourth questionnaire needs to be added to the existing three. This questionnaire can largely be based on the questionnaire for 'teachers'. It should be targeted at persons within the companies who are responsible for workplace learning by formal VET students.

Improve accessibility and usability of results for different users

Currently, SELFIE allows the coordinator to see the results online in the SELFIE environment. This environment allows visually attractive interactive graphs. When coordinators want to export this to other environments (word processor, slide presentation software, PDF), however, the results are no longer very visually attractive or informative. For initiating discussions within VET institutions, but also between VET institutions and companies, the exportation of results from the SELFIE self-reflection needs to be improved. Furthermore, results also need to be made available to participating companies, so they can see where they stand.

Provide more tailored support and guidance materials

The SELFIE platform already provides support and guidance materials for schools. Still, as VET institutions indicated, it remains difficult to fulfil the coordinating role. In work-based learning, with a fourth stakeholder group and increased variety in terms of context (e.g. occupational context; small or large companies), this coordinating role will only become more complex. This requires the provision of more tailored support and guidance materials, including tutorials or walk-through videos on how to set up a SELFIE self-reflection.

Adapt terminology to work-based learning

Currently, the SELFIE tool is focused on the school environment, and thus uses terms that do not fit the work-based learning context. The terminology needs to be adjusted to this work-based learning context (for instance 'student' becomes 'learner').

Adjust SELFIE in close collaboration with stakeholders and convince employers to participate

While the recommendation is to start the adjustment with (relatively) small changes, it is advised to continue to engage with this broader stakeholder group in the further development of SELFIE, to further enhance

ownership and commitment by these stakeholders and also to disseminate and communicate SELFIE to the work-based learning community in an effective manner. Relevant stakeholders' associations, organisations and groups to engage with include: Education and Training 2020 (ET 2020) working groups; European networks of VET providers (such as EVTA, EFEE, EVBB, EfVET, EUpVET); and European social partners (BusinessEurope, ETUC and SMEUnited).

In order to motivate companies to participate, specific promotional materials need to be developed. These could be provided to them when they are approached by a VET institution with whom they cooperate. This material should present a business case on how SELFIE could be beneficial for them.

1 Introduction

1.1 Work-based learning is high on the EU agenda

Some groups have been hit much harder than others following the financial crisis and the subsequent period of recession (2007-2009). Young people in particular have been adversely affected, given the increase in unemployment rates for those aged 15-25 years¹. In terms of youth unemployment, some countries performed better than others during the post-crisis years. It is recognised, for instance, that vocational education and training is able to smooth the transition from school to work (Cahuc, Carcillo, Rinne, & Zimmermann, 2013)². To reduce youth unemployment, policies need to be in place to improve youth labour market outcomes (OECD / ILO, 2014), so as to prevent young people accumulating negative consequences resulting from youth unemployment and ineffective transitions from school to work. Work-based learning, and in particular apprenticeships and internships/traineeships, can play a role in easing the transition from school to work.

Work-based learning refers to knowledge and skills acquired through carrying out – and reflecting on – tasks in a vocational context, either in the workplace or in a VET institution (European Commission, 2013c). It can be offered both in initial vocational education and training (IVET) and in continuing vocational education and training (CVET). IVET is usually referred to as vocational education and training carried out in the education system, usually before entering working life (Cedefop, 2014, p. 117). CVET is usually referred to as vocational education or training after initial education and training, or training after entry into working life. It aims to help individuals to update their knowledge and/or skills, acquire new skills for a career move, and continue their personal or professional development. Continuing education and training is part of lifelong learning (Cedefop, 2014, p. 51).

Thus, **work-based learning has been a high policy priority at European level** in recent years, and it will continue to feature strongly in the context of the action plan to be developed under the next European Commission (2019-2024) for implementation of the European Pillar of Social Rights, with Principle 1 on education, training and lifelong learning for everyone, and Principle 4 on active support to employment (Von der Leyen, 2019). The Bruges Communiqué on enhanced European Cooperation in Vocational Education and Training for the period 2011-2020 indicates that the ‘work-based component contributes substantially to developing a professional identity and can boost the self-esteem of those who might otherwise see themselves as failures’ (European Commission, 2010, p. 3)³. In Riga in 2015, the Member States agreed to ‘promote work-based learning in all its forms, with special attention to apprenticeships, by involving social partners, companies, chambers and VET providers, as well as by stimulating innovation and entrepreneurship’ (European Commission, 2015). These priorities are fully integrated in the strategic framework for European cooperation in education and training (ET 2020), supporting the exchange of best practices and cooperation between Member States (Council of the European Union, 2009). In relation to the broad involvement of stakeholders at European level, the European Alliance for Apprenticeships (EaFA) brings together governments with other key stakeholders — such as business, social partners, chambers, vocational education and training (VET) providers, regional authorities, youth representatives and think tanks — to strengthen the quality, supply and image of apprenticeships in Europe, and to promote the mobility of apprentices (European Commission, n. d.-a; European Council, 2018). Additionally the Youth Guarantee, adopted in 2013, explicitly mentions apprenticeships and internships as ways in which to prevent young people being unemployed (European Commission, 2013b). The employment outcomes of apprenticeship programmes, especially those associated with the dual training system, have led Member States such as Belgium, Cyprus, Greece, Hungary, Italy, Portugal, Romania, Spain and Sweden to either introduce schemes akin to this system, or embark upon major reforms of their apprenticeships (European Commission, 2013a). The Council Recommendation on a European Framework for Quality and Effective Apprenticeships in March 2018 (European Council, 2018) further reflected the importance of well-

¹ In absolute figures, this accounts for 5.6 million unemployed young people. This means that more than one in five young Europeans in the labour market cannot find a job. In some countries, such as Greece, Spain and Croatia, around half of all young people could not find employment. Since 2014, a downward trend is observable with 4.2 million young people (aged 15-24 years) being registered as unemployed in 2015 (20.3% in EU-28). See Eurostat Data Explorer (2016, n. d.-a, n. d.-b).

² In Germany, for instance, youth unemployment rates decreased from 15.4% in 2005 to 7.2% in 2015. Austria was also able to keep its youth unemployment figures relatively low during the crisis years. The factors that explain the better performance of these countries include the institutional settings and public policies that influence school-to-work transitions.

³ Full citation: ‘Work-based learning is a way for people to develop their potential. The work-based component contributes substantially to developing a professional identity and can boost the self-esteem of those who might otherwise see themselves as failures. Learning on the job enables those in employment to develop their potential whilst maintaining their earnings. A well performing VET, which enables learning on and off-the-job on a part-time or full-time basis, can thereby also strongly contribute to social cohesion in our societies.’

functioning apprenticeship systems as key factors for e.g. job market integration of young people, but also for adult career progression and transition into employment. A recent milestone at European level is the establishment by the European Commission of the Apprenticeship Support Services (AppSS), to support coordination of the EAfA, monitor implementation of the Council Recommendation, and support Member States in benchmarking and improving their apprenticeship systems.

1.2 The role of digital technology in VET and work-based learning

The 21st century is characterised by its technology- and media-driven environment, where technology is constantly changing and an ever-growing wealth of information is available. In this interconnected society, digital competence is essential for participation. **Digital competences, and in particular job-specific digital skills⁴ and digital learning, are becoming increasingly important to companies.** Companies are seeking more modern forms of learning, including e-learning for continuing education and training of employees (Jansseon, Leber, Arntz, Gregory, & Zierahn, 2018). This is also occurring because the nature of work is becoming more digital, and companies are demanding that VET institutions deliver graduates who can work in the digital age⁵.

Students also see the benefits of digital learning. The Joint Information Systems Committee (JISC)⁶ student stories highlight that digital learning supports inclusion (of learners with disabilities and health issues), and builds confidence through participating online, and allowing review of materials in their own time (better combining learning with working or caring responsibilities). Furthermore, digital forms of learning provide flexibility and independence. Confident learners can go straight to the materials they need, while less confident learners can make sure they cover everything and move at their own pace. Finally, learners liked well-resourced virtual learning environments that have reliable and up-to-date course information, offer a variety of channels for communication, and let them catch up with course content such as lectures (JISC, n. d.-b).

In 2018, the European Commission published the Digital Education Action Plan, which specified the means by which education and training systems ‘can make better use of innovation and digital technology and support the relevant digital competences needed for life and work in an age of rapid digital change’ (European Commission, 2018d, p. 1). For this reason, digital competence is also one of the eight key competences for lifelong learning (European Commission, 2018a). In addition, the European Commission makes it a goal that everybody is able to ‘exercise judgement [...], [is] able to grasp realities, to distinguish fact from opinion, to recognise propaganda and to resist all forms of indoctrination and hate speech’ (European Commission, 2018c, p. 26)⁷.

Strategies to integrate key competences in schools in Europe range from comprehensive approaches – covering areas such as e-government, infrastructure and broadband connectivity, ICT security, and e-skills development along with ICT in schools – to approaches focused on ICT in education. The educational aims most commonly indicated in strategy documents on digital competence are: improving the integration of ICT into teaching and learning; equipping pupils with the necessary ICT skills; providing ICT training for teachers; and improving ICT infrastructure in schools (European Commission/EACEA/Eurydice, 2012).

The integration of digital competences and in particular job-specific digital skills into VET, and more specifically into work-based learning, is not well researched but is moving into the spotlight. A forthcoming Cedefop study

⁴ A distinction can be made between digital competences; job-specific digital skills; and digital skills for ICT professionals. While digital competences can be referred to as digital literacy; job-specific digital skills can mean the skills to use and maintain the digital tools used in a specific job; ICT professional skills and advanced digital skills relate for instance to cyber security or programming. For discussion of these terms, see European Training Foundation (2018a).

⁵ There is a wealth of reports and studies that discuss the impact of digitalisation (the fourth industrial revolution) on the labour market. See for instance Degryse (2016) and OECD (2016). See also European Commission (2018/2019).

⁶ JISC (Joint Information Systems Committee) is a United Kingdom not-for-profit company whose role is to support post-16 and higher education, and research, by providing relevant and useful advice, digital resources and network and technology services, while researching and developing new technologies and ways of working (see also JISC (n. d.-a)).

⁷ Digital competence is defined as the ‘confident, critical and responsible use of, and engagement with, digital technologies for learning, at work, and for participation in society. It includes information and data literacy, communication and collaboration, digital content creation (including programming), safety (including digital well-being and competences related to cybersecurity), and problem solving’ (European Commission, 2018a). According to the DigComp 2.1 Framework (Carretero, Vuorikari, & Punie, 2017), digital competence consists of the following five key components, with eight proficiency levels (ranging from basic, generic skills to higher-order, specialist skills): information and data literacy – browsing, searching, filtering, evaluating and managing data, information and digital content; communication and collaboration – interacting and sharing through digital technologies, engaging in citizenship through digital technologies, collaborating through digital technologies, netiquette and managing digital identity; digital content creation – developing, integrating and re-elaborating digital content, copyright and licences, programming; safety – protecting devices, personal data and privacy, health and well-being as well as the environment; problem-solving – solving technical problems, identifying needs and technological responses, creatively using digital technologies, identifying digital competence gaps. See also (European Commission, 2018f).

on key competences in VET (Cedefop, 2017a) is focusing on literacy, languages and digital competence integration in VET, also encompassing work-based learning. Table 1.1 provides preliminary findings presented to the ET 2020 working group on Digital Education: Learning, Training and Assessment (15 February 2019). The study focuses on policies that promote the embeddedness of digital competences in VET, the actual embeddedness of digital competences in VET, and the impact of policies.

Table 1.1: Preliminary outcomes of the Cedefop study on embeddedness of digital competences in IVET (presented 15 February 2019)

<ul style="list-style-type: none"> — Policies on digital competences in IVET have emerged over the years. — One third of these policies make reference to EU/international developments and tools/frameworks. — Most policies are directed at better embeddedness in the delivery of programmes (least directed at assessment). — Digital competences are best embedded in the delivery of IVET, less in learning outcomes and assessment: digital is not a formal requirement for a VET diploma, but something that is acquired in the course of the programme. — Digital competence as a basic competence is regarded as something transversal, already implied in the learning process (learning management system, study online, etc.); less urgency to assess separately. — In VET programmes, digital is compared to languages, more uniformly considered a pure competence, also required outside of the occupational context. — It is difficult to assess the impact of policies, due to the broad nature of policy objectives, lack of monitoring data and evaluation, and short implementation time. — Policies focusing specifically on embeddedness tend to be more effective than broad strategies. — Greatest impact of policies observed is on competences of teachers to deliver ICT competences (equip teachers to work with digital in education).

Within the VET sector, and in particular in work-based learning, there are already many initiatives where digital tools are applied to facilitate learning. Some examples of interesting tools are presented in Table 1.2.

Table 1.2: Examples of interesting digital tools used in WBL

<p>TRIALOG app for work-based learning and teaching (RO) (CRIOvest, n. d.)</p>	<p>This app, developed within the Erasmus+ programme, facilitates cooperation between VET institutions, companies and students in work-based learning and teaching. The app (Trialog, n. d., p. 16):</p> <ul style="list-style-type: none"> — “has a specific area for the company, VET organisation, and students’ details; — has an interface with the start and end date of the work experience, and the indication of EQF level; — shows the essential elements which constitutes de facto a Memorandum of Understanding; — has a specific interface in which the tutor indicates in advance the tasks scheduled on each specific day, in line with the related professional skills; — has a personal access for the tutor, teacher and student, who can communicate on a daily basis through the app by entering an integrated set of information: <ul style="list-style-type: none"> ● the student can confirm or deny his presence in the company
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	<ul style="list-style-type: none"> • the student confirms he has performed daily tasks • the tutor gives a value from 1 to 4 for each activity performed on a daily basis • the tutor specifies relational skills shown by the student • the student gives a self-evaluation on his performance”.
LernApp der Bundesinnung der Mechatroniker (AT) (Learning app of the Federal Guild of Mechatronics) (WKÖ, n. d.-a, n. d.-b)	This app provides a quiz with 1,000 questions, covering all areas of mechatronics. It can be used by students in the preparation of their final assessments.
Mimbus (FR) (Mimbus, n. d.)	Mimbus is a company aimed at providing instructors in VET with innovative tools, allowing them to train their students faster, in a totally safe way and with lower costs. It has developed simulation packages such as SIMSPRAY, a virtual spray paint learning system that enables training organisations to be more efficient and more sustainable while reducing training costs; CM Labs’ Vortex in which students can learn how to use different types of machines on just one simulator.
All you can learn (NL) (All you can learn, n. d.)	All you can learn is an online platform for VET colleges in the Netherlands. It provides the ‘elective parts’ of the VET programmes in digital form. Students complete the online programme at their own pace and collect ‘points’ while conducting the programme. Teachers in the VET colleges provide support, and when the student collects sufficient points, the final assessment can take place.
JISC Apprenticeship Toolkit (UK) (JISC, n. d.-a)	This toolkit shows how the effective application of digital technologies can support the delivery of apprenticeships by colleges and training providers (including employer-providers). It provides (digital) tools for every step of the apprenticeship pathway (preparation, planning, delivery and assessment).
PROCAT Toolkit for practitioners, managers and employers (UK) (PROCAT, 2016)	This toolkit shares the experiences of Prospects College of Advanced Technology (PROCAT). PROCAT is a specialist college, focusing on providing higher level technical professional education and training in sectors such as aerospace, rail, advanced manufacturing and defence. The toolkit showcases practical activities that have been put in place to support implementation of the digital learning strategy in relation to learners, employers, staff and management of learning.
Train4TradeSkills: Virtual Reality House (UK) (ELearning superstarts, n. d.)	The Virtual Reality House lets trainees of specific trades, such as plumbers, practise their skills in a ‘walled garden’ setting; allowing them to make mistakes safely and learn from these in order to build confidence and competence before embarking on the workshop-based practical training element of their course.
EuTalent (BE) (EuTalent, n. d.)	A tool to assess the capability of companies to host apprentices. It includes a concise questionnaire, provided in an online environment. On finalising the questionnaire, a benchmark report is produced. There is no specific focus on ICT in learning of digital tools.
VOCANTO (DE) (VOCANTO, n. d.)	VOCANTO supports effective and innovative learning and teaching of complex material. The e-learning platform uses 3D models to provide simple and easy-to-understand visualisations of examination topics in various professional training programmes.

BLoK online report portfolio for WBL (DE) (BLoK, n. d.)	The purpose is to make the apprenticeship learning process more transparent and to connect enterprises (in-company trainers), apprentices, VET schools and chambers. It is funded by the German Federal Ministry of Education and Research and the ESF. It has been identified as a best practice by the German Federal Ministry for Economic Affairs and Energy.
iXperium / Centre of Expertise Learning with ICT: monitor to measure the development of ICT competencies of teachers (NL) (Ixprium, n. d.)	The iXperium / Centre of Expertise Learning with ICT has developed a monitor to measure the development of ICT competencies of teachers and to give an impression of the actual use of ICT in their education. The results of the monitor provide an increasingly better picture of the competencies that matter when it comes to the use of ICT in education and are also used as a benchmark. The monitor gives the relevant boards and educational organisations insight into their starting position and offers specific recommendations for professionalisation. In the case of repeated sampling, the monitor also provides insight into the benefits of professionalisation.

Most of these tools relate to the use of digital tools in the learning process. Only the TRIALOG app primarily addresses coordination issues between the student, VET institution and companies; some others provide suggestions on how to use digital tools at various stages in the planning, delivery and assessment of work-based learning. **No tool is available to take stock of the digital readiness of VET institutions in work-based learning.**

As a reflection on what is known about the use of ICT in VET in Europe, it can be observed that ICT and ‘digital’ are somehow covered in most programmes, or that at least digital tools are used. However, this does not tell us much about *how* VET institutions and companies involved in work-based learning ‘embed’ ICT and digital tools within their organisation.

1.3 SELFIE: Self-reflection tool for digitally capable schools

The 2017 Commission Communication on ‘School development and excellent teaching for a great start in life’ (European Commission, 2017c) calls for the development of ‘a self-assessment tool on digital capacity so that schools in the EU can, on a voluntary basis, self-evaluate where they stand in relation to common criteria and are supported in developing and improving their effective use of technologies for digital age learning. Using the tool, schools can choose to report on their progress in the availability, use, competences and attitudes to Information and Communication Technologies, building a database across all participating Member States’. This tool, named SELFIE (European Commission, n. d.-c), has been developed by the Commission. It is based on the conceptual framework for Digitally Competent Educational Organisations (DigCompOrg; Kampylis, Punie, and Devine (2015)). A first version of the SELFIE tool was piloted in October 2017 in more than 650 schools in 14 countries⁸. The **SELFIE tool was officially launched on 25 October 2018** (European Commission, 2018b).

After the successful pilot in 2017, it became one of the 11 actions proposed in the Digital Education Action Plan (European Commission, 2018d) adopted by the Commission in January 2018. The plan underscores the need to ‘support the digital readiness of both general and vocational schools by strengthening their digital capacity and by making the SELFIE self-reflection tool reach one million teachers, trainers and learners by the end of 2019 in all EU Member States and the Western Balkans’. To achieve this target, the SELFIE tool and its supporting materials, which encourage the take-up and enhance the usefulness of the tool for schools as end users, were developed and translated into all official EU languages. Table 1.3 presents the key steps for operating the current SELFIE tool.

⁸ Schools from Spain (ES), Italy (IT), Estonia (EE), Belgium (Flanders - BE), Denmark (DK), Ireland (IE), Greece (EL), Cyprus (CY), Malta (MT), Finland (FI), Serbia (RS), Georgia (GE), Northern Ireland (UK) and – through an agreement with the UNESCO Institute for Information Technologies in Education – from the Russian Federation.

Table 1.3. Stepped approach of SELFIE

<p>Step 1: Assign a person or small team to coordinate the exercise</p>	<p>The SELFIE tool covers the whole 'educational organisation' (school) community and can be filled in by school leaders, teachers and students. Questions are tailored to each group. The tool is applicable to different types of schools and educational sectors, as it allows customisation.</p> <p>The logic behind SELFIE is that a school coordinator takes responsibility for coordinating the self-assessment. The first step for a school is to assign a person or small team to coordinate the exercise.</p>
<p>Step 2: Coordinate the exercise</p>	<p>The school coordinator:</p> <ul style="list-style-type: none"> — registers the school on the SELFIE platform, provides basic information such as the type of school (for example primary or secondary), size and location; — chooses the timing of the SELFIE exercise; — selects who will take part (for example, which group of students).
<p>Step 3: Select or add items that match the needs and context of your school</p>	<p>There are four types of questions in SELFIE:</p> <ul style="list-style-type: none"> — a set of 'core' questions that are the same for every school, — a set of optional questions that school coordinators can choose from, — a set of up to 10 questions that the school coordinator can add to match the questionnaire to the needs and context of his/her school, — a set of questions that are only for upper secondary vocational schools and directed towards their specific context. <p>For all educational levels, there are three questionnaires: one for 'school leaders', one for 'teachers' and one for 'students'.</p> <p>The core and optional questions are organised in six areas.</p> <ul style="list-style-type: none"> — Area A: Leadership. This area relates to the role of leadership in the school-wide integration of digital technologies and their effective use for the school's core work: teaching and learning. — Area B: Infrastructure and Equipment. This area is about having adequate, reliable and secure infrastructure (such as equipment, software, information resources, internet connection, technical support or physical space). This can enable and facilitate innovative teaching, learning and assessment practices. — Area C: Continuing Professional Development (CPD). This area looks at whether the school facilitates and invests in the CPD of its staff at all levels. CPD can support the development and integration of new modes of teaching and learning that harness digital technologies to achieve better learning outcomes. — Area D: Teaching and Learning. Teacher digital competence in using digital technologies for more effective learning involves updating and innovating teaching and learning practices. — Area E: Assessment Practices. This area relates to measures that schools may consider in order to gradually shift the balance from traditional assessment towards a more comprehensive repertoire of practices. This repertoire could include technology-enabled

	<p>assessment practices that are student-centred, personalised and authentic.</p> <p>— Area F: Student Digital Competence. This area relates to the set of skills, knowledge and attitudes that enable the confident, creative and critical use of digital technologies by students.</p>
Step 4: Invite students, teachers and school leaders to fill in the questionnaire	The school coordinator invites “students, teachers and school leaders to take part in SELFIE on an anonymous basis. It takes around 30 minutes to complete the questions”. For teachers and school leaders, this can be done “at a time that suits them”; for students, it is recommended to make it part of a lesson.
Step 5: Generate report	“Once participants have completed the questions, SELFIE” automatically generates a report for the school, showing “the aggregated results in a visual and interactive way. These results are fully anonymised. The report belongs to the school and only the school can access it.”
Step 6: Discuss and formulate action plans	The school community “can use the findings from SELFIE” to start a discussion on “how technologies support teaching, learning and student assessment in” their school. This could help them to formulate “an action plan and set priorities”.
Step 7: Repeat periodically	Schools “can repeat the assessment periodically” to “gauge progress and see where more action is needed”.

Source: European Commission (n. d.-b).

1.4 The use of SELFIE in WBL

Until now, SELFIE has been designed to be used by schools offering general education (primary, lower and upper secondary), VET schools (upper secondary), and post-secondary non-tertiary educational institutions. The organisation of education processes in VET differs significantly from the process in general education. Notably, a key feature of VET is a very significant proportion of educational time dedicated to learning skills relevant to a specific occupation or a group of similar occupations. This includes the acquisition of knowledge and skills through carrying out, and reflecting on, tasks in a vocational context, either at the workplace or in an education or training institution (European Commission, 2017a) – in summary called work-based learning (WBL). The current SELFIE tool does not accommodate application in WBL contexts.

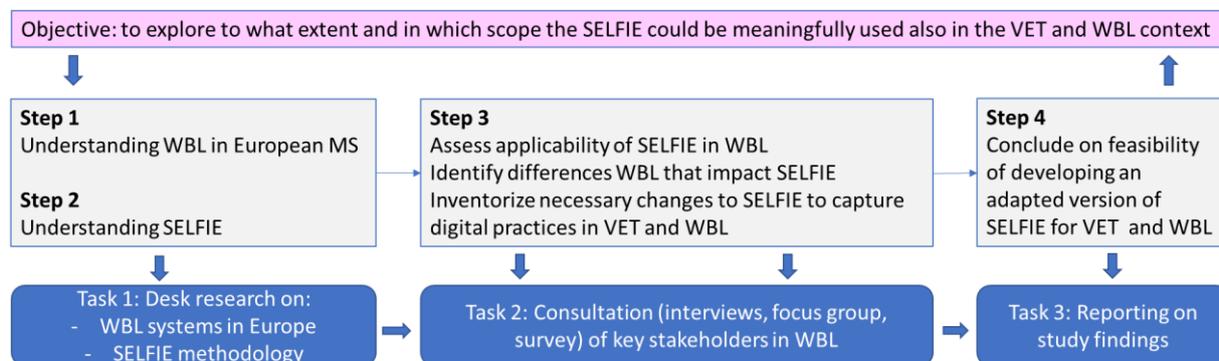
1.5 Objective and approach

The objective is to conduct a feasibility study in view of adapting SELFIE to WBL systems in EU Member States in the future. The aim of this exercise is to **explore to what extent, and with what scope the SELFIE could also be meaningfully used in the context of VET and WBL**, including apprenticeships or dual VET. The study has the following specific objectives.

1. Provide an overview of the various WBL systems in Europe.
2. Assess through research ‘on the ground’ any changes potentially needed in the current SELFIE tool to be useful for WBL institutions.
3. Provide an inventory of the differences implied by WBL for the capacity of SELFIE to appropriately reflect and capture digital practices in VET.
4. Provide a clear and detailed overview and list of necessary changes in the adaptation of SELFIE in order to appropriately and comprehensively capture digital practices in WBL systems.
5. Conclude on the feasibility of developing an adapted version of SELFIE for VET, and recommend on the most promising scope/focus for such an adapted version, as regards different forms of WBL, different forms of VET, different target institutions, and different target groups of learners.

The feasibility study is conducted using a four-step approach, combining desk research and consultation with stakeholders as outlined in the schematic overview in Figure 1.1. An overview of the sources consulted is included in the Annex.

Figure 1.1: Schematic overview of the general approach (objectives and tasks)



Source: Authors

The consultation consists of a first round of semi-structured interviews with key stakeholders at European/international level; and a second round of semi-structured interviews (partly conducted by Ockham IPS and partly by JRC) with work-based learning stakeholders (VET institutions, companies, company representatives) in Austria, Finland, France, Germany, Greece, Italy, the Netherlands, Romania and Spain. Furthermore, a short online survey has been launched to provide a wider group of stakeholders with the opportunity to provide input. Fifteen stakeholders took the opportunity to provide feedback.

The feasibility study is conducted in cooperation with the JRC (Ralph Hippe) and is supported by a steering committee consisting of:

- Panagiotis Kampylis (JRC)
- Helen Hoffmann (DG EMPL)
- Mantas Sekmokas (DG EMPL)
- Alessandro Brolpito (ETF)
- Irina Jemeljanova (Cedefop)

The steering committee has provided regular feedback and input during the feasibility study. In addition, DG EAC has been a crucial partner in development of the SELFIE tool.

1.6 Structure of the report

The report is structured as follows.

- Chapter 2 explores characteristics of work-based learning that might impact the adjustment of SELFIE to the WBL context.
- Chapter 3 discusses the results of the small-scale consultation with stakeholders on adjusting SELFIE to WBL contexts.
- Chapter 4 presents the conclusions of the feasibility study.

2 Understanding WBL in European Member States

2.1 Work-based learning and apprenticeships in Europe⁹

As indicated in the previous chapter, work-based learning refers to knowledge and skills acquired through carrying out – and reflecting on – tasks in a vocational context, either at the workplace or in a VET institution (European Commission, 2013c). Work-based learning can refer to apprenticeships, internships/traineeships and on-the-job learning by employees (i.e. continuing professional development), defined as described below.

- The Council Recommendation defined **apprenticeships** as ‘formal vocational education and training schemes that combine substantial work-based learning in companies and other workplaces with learning based in education or training institutions, that lead to nationally recognised qualifications. These are characterised by a contractual relationship between the apprentice, the employer and/or the vocational education and training institution, with the apprentice being paid or compensated for her/his work’ (European Council, 2018).
- An **internship/traineeship** is defined as a work practice (either as part of a study curriculum or not) including an educational/training component which is limited in time. They are predominantly short- to medium-term in duration (from a few weeks up to six months, and in certain cases lasting one year) (European Commission, 2012a). This form of work-based learning is a common characteristic of many VET systems in which learners gain an impression of the occupational context while working for a short period in a company. Roughly, three broad categories of traineeships/internships can be distinguished (based on an analysis by European Commission (2012b): 1) internships that are part of vocational/academic curricula or (mandatory) professional training; 2) internships associated with active labour market policies (ALMPs); 3) internships in the open market.
- **On-the-job learning (continuing professional development or CPD)**. On-the-job learning can be understood as learning by adults at the workplace (see also European Commission, 2018e), i.e. the learning that adults undertake while working, or while at the workplace. The skills and competences they acquire may not necessarily be those needed for work. Adult learning in the workplace can be any of the following. (1) **Formal**: it occurs in an organised and structured environment and is explicitly designated as learning (in terms of objectives, time or resources) and leads to a formal qualification. This kind of learning might take place within a VET/apprenticeship-type programme (also at higher levels) or short-cycle higher education programmes. (2) **Non-formal**: it occurs in an organised and structured environment and is explicitly designated as learning (in terms of objectives, time or resources) but does not lead to a formal qualification. This kind of learning might, for instance, be employer-based training or courses, self-study or job-shadowing. (3) **Informal**: it results from daily activities at the workplace, which are not specially organised or structured, and do not lead to a formal qualification. This kind of learning might include learning associated with taking over new tasks, peer learning, exchanges with colleagues, or learning by doing¹⁰.

The difference between the three forms of work-based learning is – in general – the status of the learner. In an apprenticeship, the learner is usually either a student or an apprentice (specific employment status) and is hired by the employer to follow an apprentice pathway towards obtaining a qualification. An intern is usually someone hired by an employer on a temporary contract or an unpaid/low-paid contract. On-the-job learning (continuing professional development) applies to someone working in a company/organisation who needs additional training to improve the quality of work, or to make work transitions. Work-based learning in VET can also include the practical training and simulation of the work context within the VET institution. It is, however, not uncontested to refer to this learning when talking about work-based learning. The European Training Foundation (ETF), for instance, explicitly excludes this from work-based learning¹¹. The boundary between simulation and

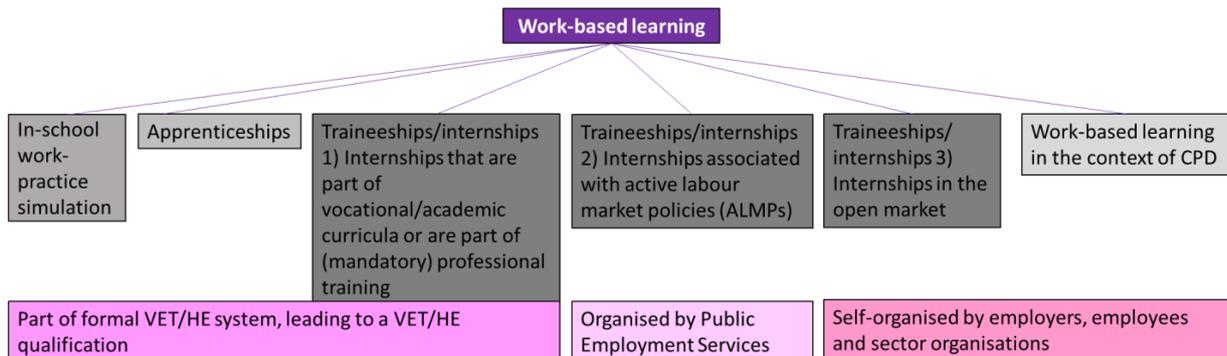
⁹ Part of this section is taken (amended) from another publication by Ockham IPS: Broek, Hogarth, Baltina, and Lombardi (2017).

¹⁰ Adult learning in the workplace is closely related to, and to an extent overlaps with, the broad concept of work-based learning as defined by IAG-TVET (Interagency Group on Technical and Vocational Education and Training): ‘Work-based learning refers to all forms of learning that takes place in a real work environment. It provides individuals with the skills needed to successfully obtain and keep jobs and progress in their professional development’ (IAG-TVET, 2017, p. 2).

¹¹ ‘Work-based learning refers to learning that occurs when people do real work. This work can be paid or unpaid, but it must be real work that leads to the production of real goods and services. Some enterprises, particularly large ones, have their own training classrooms or workshops, and employees take time away from work to attend training sessions in them. This type of training was very common in many countries of the former Soviet Union. This is not work-based learning. It is simply classroom-based learning that happens to take place in an enterprise rather than in an educational institution’ (European Training Foundation, 2018b, p. 5).

'real-work experience' is increasingly blurring, due to increased digitalisation of the workplace and the improvement of simulation software (European Training Foundation, 2018a). Figure 2.1 provides a schematic overview of the different types of work-based learning.

Figure 2.1: Schematic overview of work-based learning



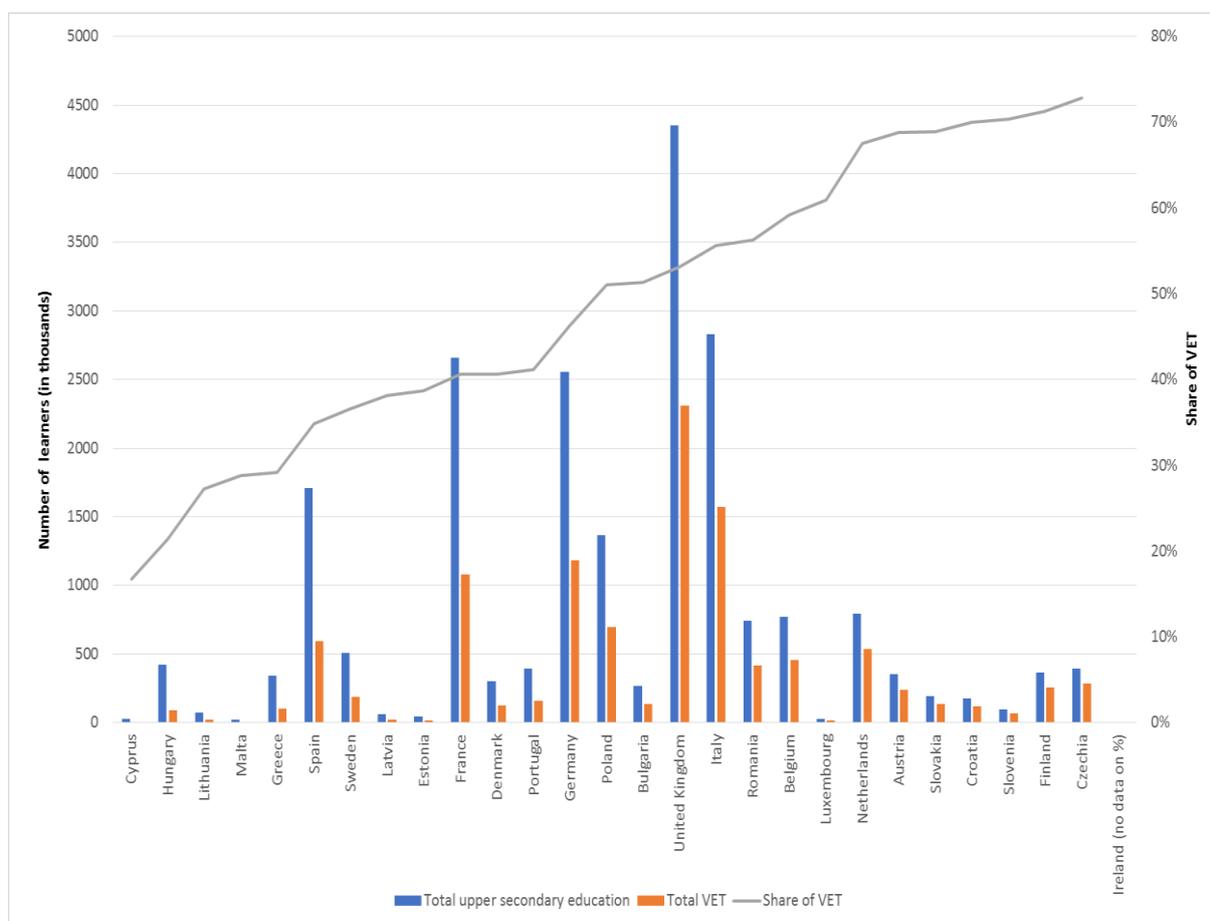
Source: Authors

The feasibility study primarily looks at WBL settings in formal VET, i.e. where learning is focused on obtaining a formal qualification. This can be both for young people (predominantly initial VET) and for adults (predominantly continuing VET). From this perspective, there is less focus on the second and third types of internship or on (most) on-the-job learning in the context of CPD. Although the feasibility study focuses on formal VET, it will also gather reflections on the feasibility of applying SELFIE in the other contexts of WBL.

2.2 Participation in work-based learning in Europe

A total of 10.8 million pupils participated in upper secondary vocational education and training in the EU-28 in 2016, according to Eurostat (Eurostat Data Explorer, 2016). This accounts for half (49%) of the total number of pupils in upper secondary education. There are significant differences between European Member States. In a number of countries, VET accounts for more than 70% of the total number of pupils. This is the case in Czechia, Croatia, Slovenia and Finland. In others, the percentage is quite low (less than 30%), as is the case in Greece, Cyprus, Lithuania, Hungary and Malta. As highlighted in the Cedefop report on 'The changing nature and role of vocational education and training in Europe' (Cedefop, 2018b), Germany, France, Italy and the UK are together responsible for more than 50% (56%) of total European enrolment in VET. Figure 2.2 provides an overview of the total number of pupils in upper secondary VET and the percentage of VET compared to all pupils in upper secondary education.

Figure 2.2: Total number of pupils in upper secondary VET and percentage of VET compared to all pupils in upper secondary education, 2016

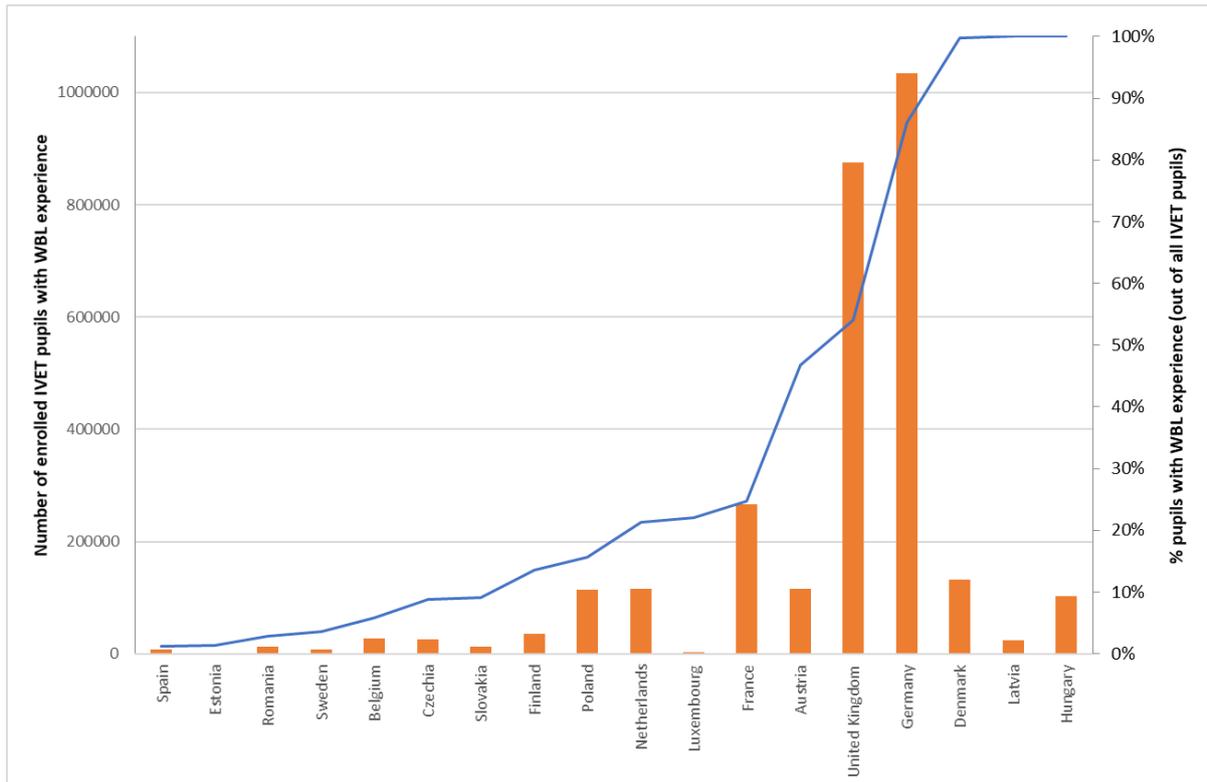


Source: Based on Eurostat Data Explorer (2016).

Looking more closely at the share of pupils in work-based learning in IVET, Cedefop (2018c) provided some analysis. The indicator used is defined as the percentage of upper secondary VET students that are enrolled in combined work- and school-based programmes¹². From this analysis, **Cedefop concludes that “in 2015, 28.4% of students in upper secondary VET in the EU were enrolled in combined work- and school-based programmes** (estimate based on available country data)” (Cedefop (2018c). Figure 2.3 provides an overview.

¹² Note that “[a] vocational programme is classified as combined work- and school-based if 25% or more of the curriculum is presented outside the school environment; otherwise it is classified as school-based. Programmes where the work-based component accounts for 90% or more of the curriculum are excluded. Under these conditions, apprenticeships are included in the work-based IVET component” (Cedefop, 2017b, p. 169).

Figure 2.3: Pupils having a WBL experience in IVET, 2015

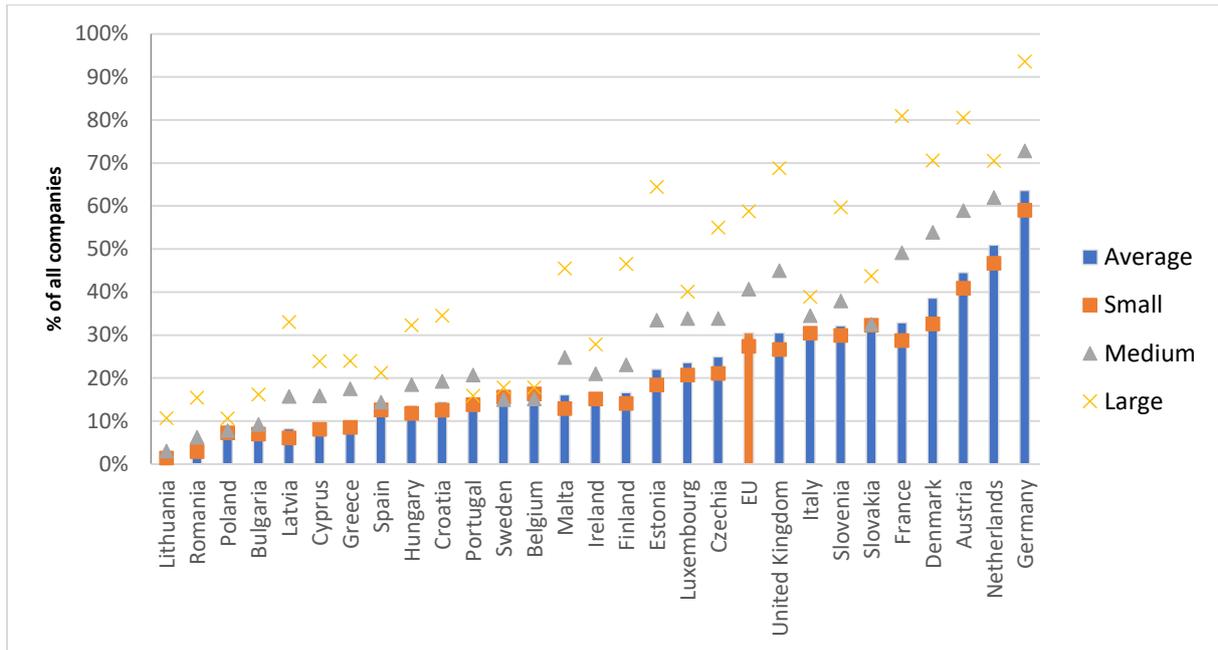


Source: Cedefop (2018c).

Note: No data for BG, CY, HR, IE, IT, LT, PT, SI because “a statistical distinction of vocational programmes between combined work- and school-based, as opposed to school-based, was not applicable, due to the characteristics of their IVET systems or programmes” (Cedefop, 2018c). No data available for EL in 2015.

In 2015, almost one third (30.5%) of all companies in the EU-28 economy employing 10 or more persons provided initial vocational training, meaning that they are involved in IVET provision. As Figure 2.4 shows, the Member States ranking the highest are Germany, the Netherlands, Austria and Denmark. The share is usually highest among large companies (e.g. 94 % for large while only 59 % for small companies in Germany). In some Member States the difference between small and large companies is very large (e.g. Estonia, France, United Kingdom), while in others (such as Belgium and Sweden) it is quite small.

Figure 2.4: Companies employing IVET participants, 2015



Source: Based on Eurostat Data Explorer (n. d.-a).

Note: Small company = 10-49 persons employed, medium = 50-249 persons employed, large = 250 persons employed or more.

2.3 Diversity of organisational models of WBL

As indicated, work-based learning models differ among countries. It is not the purpose of this report to provide a full description of how work-based learning and apprenticeship models are operationalised in all EU (and other) countries. Instead, it will look into the characteristics of different models that may require changes to the SELFIE tool for use within the work-based and apprenticeship context.

As SELFIE targets 'educational organisations', in this feasibility study it is important to look at:

- target groups and situating apprenticeship schemes
- duration of work-based learning: time in the company
- formal relationship with the employer
- status of the learner
- role of the employer
- cooperation between employer and educational and training institution.

At European level, efforts have recently been made to develop comparable information on different work-based learning schemes used in different countries (Cedefop, n. d.). Cedefop's study 'Apprenticeship schemes in European countries: A cross-nation overview' (Cedefop, 2018a) identified, presented and analysed 30 apprenticeship schemes in 24 countries. These schemes are defined as apprenticeship schemes by the countries; they have stable/valid legal basis and are mainstreamed at the system level. The European database on apprenticeships, developed by Cedefop, is based on information collected in the first half of 2016 as part of Cedefop's cross-nation study. An earlier available version of the database (November 2018) contained a wider set of schemes, namely 42 schemes from 26 countries, compared to 30 schemes from 25 countries currently. After further analysis, some of them were not perceived as apprenticeship schemes, as it included schemes that are predominantly school-based but with a considerable amount of learning time in the company (internships). For the purposes of the SELFIE feasibility study, this previous version of the database makes for a good starting point in looking at the diversity of work-based learning schemes in formal VET in Europe. Additionally, to expand the scope of the feasibility study, similar work-based learning settings in non-EU Member States are also taken into account (for instance in ETF partner countries) (European Training Foundation, 2017).

In the remainder of this section, we explore some characteristics of work-based learning schemes in formal VET that might impact the SELFIE tool. In relation to different characteristics, country-specific examples are provided. In relation to the characteristics discussed, reflection points are indicated in section 2.4 for the further development of SELFIE in the context of work-based learning.

2.3.1 Target groups and situating apprenticeship schemes

Work-based learning schemes (including apprenticeship schemes) can be relevant to different age groups of learners, allowing enrolment by younger and older learners. In the EU-28, 56.7% of students in VET reported having had a work-based learning experience within their curriculum in 2016 (of which roughly half were apprenticeships and half were other work-based learning experiences) (see Eurostat, 2016)¹³. These **work-based learning schemes can constitute: main route within VET, alternative/second chance route within VET, or alternative pathway outside of the VET sector**. In Germany, for instance, dual study courses are technically part of higher education and do not fall under the Vocational Training Act, which means that the scheme as a whole is not part of formal VET. However, the scheme does include a formal VET component, as the study courses combine apprenticeships (according to the Vocational Training Act) with additional instruction at an institution of higher education. In the course of a dual study programme, learners achieve a VET qualification from the dual system plus a bachelor's degree. In Latvia, the apprenticeship in crafts is implemented separately from other education sectors and is not included in the formal education programme classification. Other examples are apprenticeships as part of active labour market policies (ALMPs) that target (young) adults and provide them with a better opportunity to access the labour market through gathering work experience in a company. In the Netherlands, the VET system contains two potential 'tracks': a school-based and a company-based track, both leading to the same qualification (both include work-based learning; only the amount differs). The students in the company-based track tend to be older compared to the school-based track, and often already have working experience before enrolling in the VET programme.

2.3.2 Duration of work-based learning: time in the company

All work-based schemes include learning and working time in the company. As defined by the ET 2020 Working Group on Adult Learning, 'work-based learning refers to all forms of learning that take place in a real or simulated environment which provides individuals with the skills and competences needed to successfully obtain and keep jobs and progress in their professional careers' (Learning and Work, 2017). Looking more specifically at the apprenticeship schemes included in the Cedefop cross-nation overview (consulted online in November 2018), the following indication can be provided on the average time spent in-company (Table 2.1).

Table 2.1: In-company training in apprenticeship schemes (Cedefop cross-nation overview; online November 2018)

Minimum share of time of the apprenticeship that the learner spends in the company	# of schemes	% of schemes	Examples of schemes
Equivalent to or greater than 50%	16 schemes: AT (2 schemes) BE (3) CY (1) EE (1) EL (1)	38%	PL – Vocational preparation of young workers: Daily working hours of practical vocational education cannot exceed six hours for students under the age of 16, or eight hours for students over the age of 16. In the case of young workers/apprentices, all the hours dedicated to practical learning of an occupation, provided for in the framework curriculum for vocational school, are spent at the workplace. This means 970 hours of classes in the 3-year period of study; not less than

¹³ In the higher education sector, these shares amount to 40% of all students having a work-based learning experience (of which one quarter are apprenticeship schemes) (see Eurostat, 2016).

	FI (1) LV (1) NL (1) PL (1) RO (1) SE (2) UK (1)		60% of the total number of teaching hours allocated to vocational training in the framework curriculum.
Between 20% and 50%	12 schemes: AT (1) ES (1) FR (2) HR (1) IT (2) NO (1) PT (3)	29%	NO – Upper secondary vocational programmes: Typically, the model in Norway is 2+2, meaning two years spent in school-based training and 2 years in enterprise-based training, of which 50% is training and 50% is work. This means that 33% of training is expected to be undertaken in-company. Since 2006, a minimum of 421 hours of the project in the in-depth study should preferably take place in firms.
Less than 20%	1 scheme: PT (1)	2%	PT – Adult education and training: Apprenticeship pathways can be part of the Cursos de Educação e Formação de Adultos (Cursos EFA), but usually these courses are provided face-to-face ¹⁴ .
No minimum share is compulsory	14 schemes: DK (1) DE (2) HU (1) IE (1) IS (1) IT (1) LU (1) LT (1) LV (1) MT (1) RO (1) SE (1) UK (1)	33%	UK (Scotland) – Modern Apprenticeships: The content varies according to the apprenticeship job level and job role. LU – Apprenticeship contract: In general, the apprenticeship scheme consists of four days a week spent at the company and one day at the VET school. However, it depends on the specific sector in which the apprentice is trained. DK – Apprenticeship: This is decided individually for each programme by the social partners in the Trade Committees. Generally, the ratio between time spent in school and enterprise is 1:4.

Source: Cedefop (2018a) (consulted November 2018).

As can be seen in the table, a large share of schemes (33%) have no compulsory minimum share set for time to be spent in the company. This does not mean that no time in the company is anticipated, but that the proportion of this depends on the sector. Usually in these schemes, a high proportion of time is spent in-company.

¹⁴N.B. This information is no longer available. For more information, see ANQEP (n. d.).

The countries with limited time in-company often do not have a long tradition of apprenticeships (UEAMPE / BusinessEurope / CEEP, 2016). In other countries that have a long tradition of apprenticeships, such as Austria, company-based training constitutes the major part of apprenticeship training. Generally, apprenticeship training agreements - stating the conditions of training within the framework of a contract of employment - are signed between the company and the apprentice (Bundesministerium für Bildung Wissenschaft und Forschung, 2018). In the Netherlands, a minimum of 60% of the time is spent in the company for the apprenticeship route, while this is 20% for the school-based track (both leading to the same qualification) (FNV Jong, n. d.).

2.3.3 Formal relationship with the employer

As SELFIE seeks to provide insights into where the learning takes place and how this is supported by digital means, the relationship with employers is an important aspect to reflect upon. All schemes in the Cedefop database have some form of contractual arrangements between learner, company and/or training provider. In more than half of the schemes, the contract is between the learner and the employer. However, in these schemes there are very often also separate contractual arrangements between the VET institution and the company. In the legal basis of the Polish Vocational preparation of young workers, an employment contract is concluded between the young employee and the employer. An employer, however, also signs a contract with the vocational school where the apprentice is taught theoretical subjects (if he/she attends the vocational school). A quarter of the schemes require a contractual arrangement between learner, company and/or education and training provider. For instance, this is the case in the Netherlands in the work-based pathway (BBL): the Education law states that the apprenticeship will be based on a contract (*overeenkomst*) between the educational institution, the apprentice and the organisation delivering the work-based training. This is an indication that the VET institution is still involved in the organisation of the (work-based) learning. In a substantial minority of schemes, the contractual arrangement is only between the employer and the learner. For instance, this is the case in Austria with the dual apprenticeship (*Lehre/duale Ausbildung*): the contract is implemented between the authorised apprenticeship trainer and the apprentice, and forms the basis of vocational training in the dual system. Another example is the *formation en alternance* in the French-speaking part of Belgium, where the company and the young person sign — under the supervision of the training institution — the same type of contract irrespective of the training provider where the student is enrolled. This contract stipulates rules for remuneration, working hours, days off, benefits, social security, insurance, etc. and it includes the training plan, which is drafted by the training institution.

2.3.4 Status of the learner

The status of the learner differs between work-based learning schemes. When looking at the schemes included in the Cedefop database, in around one third of the schemes the learner is an employee of the company, in another third the learner is in fact a student, and in the remaining third of the schemes the apprentice has a specific status. The latter is the case, for instance, in the Austrian dual apprenticeship scheme and supra-company apprenticeship, but also in the (Flemish) Belgian schemes Part-time vocational secondary education and Apprenticeships for SMEs.

There is a difference between the formal status of the learner in work-based learning settings and how companies informally see learners. In many countries where companies are not (yet) fully engaged in work-based learning, learners are still seen as a source of cheap labour instead of an investment in the future workforce. The OECD and ILO indicate that 'quality apprenticeships require good governance to prevent misuse as a form of cheap labour' (OECD / ILO, 2014). Work-based learning runs the risk of being associated with offering cheap labour and replacing regular employees. As indicated in the European Parliament overview study (Broek et al., 2017), this threat is most clearly identified in relation to open-market internships, but also plays a role in apprenticeships. The cheap labour challenge has everything to do with imbalance in the labour market: where there are more young people looking for opportunities to enter the labour market one way or another, employers can enrol young people against lower remuneration. This challenge is less common for apprenticeships, where there is a longer-term commitment (often years). For internships, there are popular employers/sectors that are in high demand, although they do not offer any form of compensation. When the imbalanced labour market allows it (e.g. greater supply of willing young people; popular employer/sector), there can be instances where employers systematically rely on interns to perform tasks that were usually conducted by regular employees. In these cases, interns are not hired with the intention of offering them the possibility of a regular employee position, but are simply replaced by new interns.

2.3.5 Role of the employer

The role of the employer in facilitating work-based learning can also differ. In a majority of the schemes included in the Cedefop database, the employer is obliged to provide training at the workplace. In one third of the schemes this is required by contract, and in slightly more schemes it is required by law. In one third of the schemes, however, there is no formal requirement to provide training. In Greek EPAS apprenticeships, for example, there is no explicit requirement for companies to provide a qualified tutor to accompany apprentices. However, companies have an obligation to provide the necessary staff for the implementation of training programmes. In Spain, the Apprenticeships in Dual VET legal framework does not stipulate formal obligations for the employer, but the apprenticeship contract does indicate that the company is obliged to give the employee work that is related to the professional profile of the VET programme, and to ensure that the worker can attend training. Companies are also obliged to designate a tutor to coordinate work and training, and to communicate with the tutor at the training centre.

The organisations involved in WBL and offering training opportunities are often small and medium-sized enterprises (SMEs), where issues can include a lack of training infrastructure and personnel to supervise apprentices, or insufficient expertise to manage complex rules and administrative requirements (European Commission, 2017a). The main interest of companies is in seeing a return on investment for the apprenticeships. Often, employers that work as apprenticeship training companies are accredited by official bodies. In the Netherlands, for instance, an organisation is required to have an employee who is a competent trainer recognised by the Foundation for Cooperation on Vocational Education, Training and Labour Market (SBB, n. d.) as an official learning company. A function profile has been prepared by SBB to assess the competences of these trainers. If SBB doubts the ability of the trainer(s), they can decide to deny recognition. Some sectors, such as hospitality and automotive, have their own additional requirements for trainers. In addition, since 2016 the Dutch Ministry of Education, Culture and Science has obligated VET institutions to set up an improvement plan for apprenticeships, in exchange for subsidy. VET institutions must at least indicate measurements to improve the quality of guidance offered by teachers and trainers during apprenticeships. Another example is the Office Francophone de la Formation en Alternance in the French-speaking part of Belgium (OFFA (n. d.)), which has developed a common accreditation system for companies that replaces specific accreditation for the various providers, having value vis-à-vis the three providers (CEFA, IFAPME and SFPME). This accreditation determines the minimum conditions that a company must meet in order to train young people, such as having the necessary organisation and equipment, respecting the regulations in force, having a competent mentor, and so on. The accreditation procedure must be completed within three months. Accreditation is also necessary to receive financial benefits. Accreditation can be refused, suspended or withdrawn if the company does not meet the requirements or does not comply with the requisite obligations.

Table 2.2 provides an overview of the requirements met by training companies (per regulation) involved in apprenticeship schemes (based on the Cedefop database).

Table 2.2: Overview of the requirements met by training companies (per regulation) involved in apprenticeship schemes (overview; online November 2018)

	% of apprenticeship schemes (N=42)
Must provide a mentor/tutor/trainer	74%
Must provide a learning environment	69%
Must ensure learning support	55%
Must develop a training plan	33%
Other	14%

Source: Cedefop (n. d.), consulted November 2018.

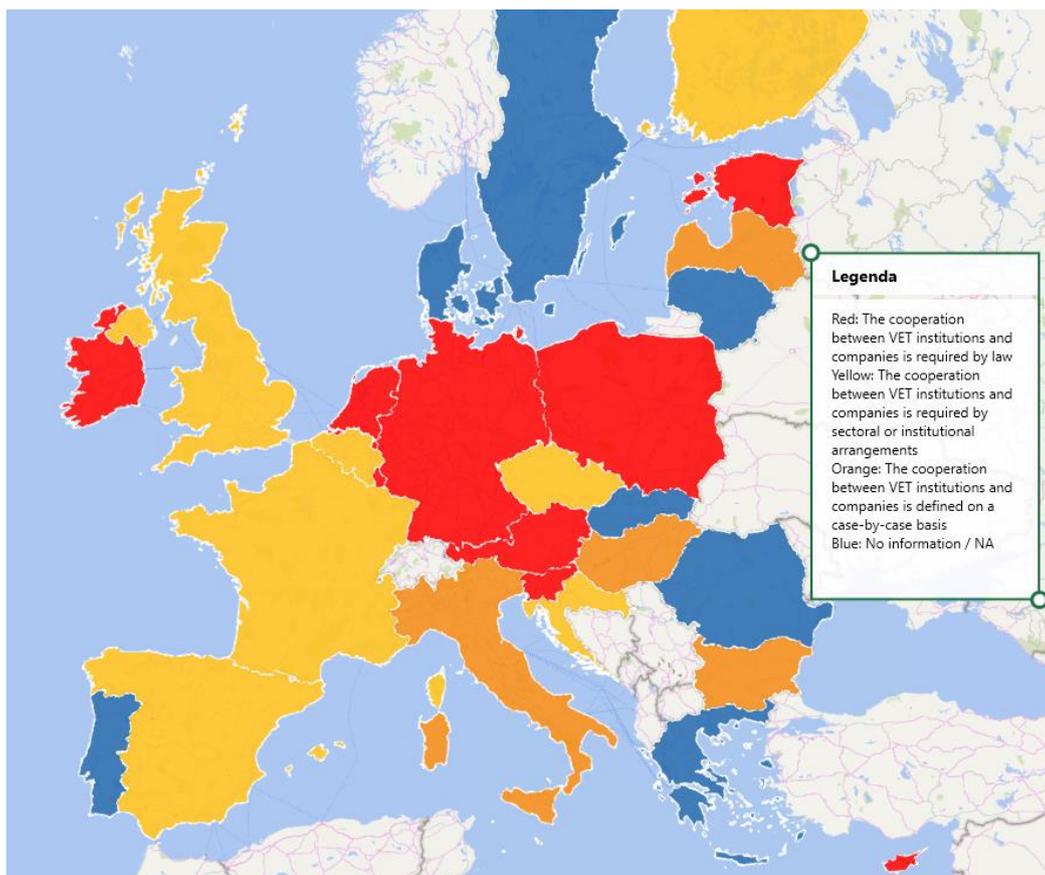
As evidenced, a majority of companies must provide a mentor/tutor/trainer, provide a learning environment and ensure learning support, but training plans are less frequently required. These requirements often relate to general quality assurance mechanisms. In the UK (England), for instance, it is the education and training provider's responsibility to ensure that quality standards are met. This includes challenging, or not engaging

with, employers who are unwilling or unable to contribute to a high-quality apprenticeship. Prime contractors retain full responsibility for ensuring that requirements and obligations for apprenticeship delivery are met by sub-contractors they appoint. Prime contractors remain accountable where quality standards are not met. Education and training providers are expected to be able to actively demonstrate that they have met the features described in this statement, as their commitment to meeting the policy intent behind the apprenticeship programme.

2.3.6 Cooperation between employer and education and training institution

Aspects of cooperation between employers and education and training institutions have already been touched upon in the previous section. VET-business cooperation is a multi-faceted topic, involving (amongst other things) matching supply and demand, and delivering learning and innovation (European Commission, 2017b). Education and training institutions, as well as companies, establish many partnerships. Some of these are regulated by policies (employers and employers' organisations have a say in the development of qualifications, assessment of learning outcomes, and governance of the VET system); others are more project-based and relate to a specific topic (for instance, fostering innovation in companies and education and training institutions, or developing digital skills)¹⁵. A European Commission study on teachers and trainers in work-based learning/apprenticeships mapped the cooperation arrangements between VET institutions and companies (European Commission, 2017d). Figure 2.5 provides an overview of the basis for cooperation arrangements.

Figure 2.5: Basis for cooperation arrangements between VET institutions and companies



Source: European Commission (2017d), p. 83.

¹⁵ See for instance: Valkeakoski Campus (Trimola Campus and Robola lab project) (FI); Higher Technical Institutes (IT); Techwise Twente (NL); Tech Partnership (UK) (European Commission, 2017b, p. 38).

2.4 Assumed implications of WBL context for the SELFIE tool

The mapping of work-based learning schemes in Europe revealed a broad spectrum of systems and modalities. In order for SELFIE to cover the different systems and modalities, reflection points indicated in Table 2.3 need to be taken into account in further discussing the feasibility of adjusting SELFIE to capture work-based learning.

Table 2.3: Reflection points for adjusting SELFIE to WBL

Target groups	WBL is available for different age groups (younger and older learners — although schemes can be restrictive with regard to the age of learners), and can be established inside or outside the VET system (e.g. ALMPs). Furthermore, it can also cover different education levels, even extending into higher education. SELFIE should consider whether it can accommodate these differences within the tool (in terms of infrastructure and terminology).
Duration of work-based learning: time in the company	VET schemes that include WBL involve substantial proportions of work-based learning. SELFIE should be able to cover the use of digital tools to support the learning that takes place in these environments. It should therefore include the option of being filled in by companies involved in work-based learning. Furthermore, the terminology should be sensitive to different learning environments.
Formal relationship with the employer	In many countries, the VET institution is still the main coordinator of the work-based learning schemes, but there are examples of work-based learning models where there is no VET institution involved at all. SELFIE could also cover these apprenticeship models. This means that the main person responsible for filling in the SELFIE tool and coordinating the self-reflection is not necessarily someone within an educational institution; they could be within a company.
Status of the learner	In a majority of VET schemes that include WBL, the learner does not have the status of student, but of employee or apprentice (specific status). The SELFIE tool needs to be sensitive to this in the terminology applied.
Role of the employer	In a majority of VET schemes that include WBL, the companies play a considerable role in the facilitation of learning, and are included in quality assurance systems for VET and apprenticeships. Companies can even take the lead in delivering the training (not coordinated by an education and training institution). SELFIE will have to consider the extensive role of companies in the delivery of learning.
Cooperation between employer and education and training institution	Cooperation between VET institutions and companies is often determined by legal frameworks, but not necessarily. SELFIE should accommodate both situations where VET institutions and companies cooperate closely, and situations where they do not cooperate.

3 Results of small-scale consultation with stakeholders and institutions involved in WBL

3.1 Introduction to consultation results

The consultation with stakeholders and institutions involved in WBL aimed to delve deeper into a number of specific issues identified during desk research and discussions with the steering committee. This chapter deals with each of these issues separately and presents the perspectives of stakeholders and those involved in WBL.

The consultation was jointly organised by Ockham IPS and the JRC, with support from DG EMPL. The consultation included both a targeted approach and an open approach, in order to gather specific input from certain stakeholder groups, but at the same time remain open to anyone who would like to provide suggestions to adjust the SELFIE tool to WBL. During the consultation process, input is delivered via telephone/video-conference interviews, face-to-face interviews, written input, and a dedicated short web survey. This web survey was not intended to yield a high number of responses (for quantitative analyses), but provided an extra opportunity to collect reflections. The information from this survey was analysed qualitatively. The Annex provides an overview of the organisations, institutions and companies that contributed to the consultation. Broadly speaking, the input came from the following stakeholder groups:

- international organisations (UNESCO; UNESCO-UNEVOC International Centre for Technical and Vocational Education and Training)
- European representative organisations (BusinessEurope; ETUC; EUproVET; European Federation of Education Employers)
- national stakeholders (MBO Raad (Dutch VET council); saMBO-ICT¹⁶ (Netherlands); Industriellenvereinigung¹⁷ (Austria))
- VET providers in Finland, France, Germany, Greece, Italy, the Netherlands, Romania and Spain
- companies/employers in Austria (logistics), Germany (automotive, finance), Greece (public sector), Italy (services), the Netherlands (services), and Romania (automotive, retail, food).

The web survey yielded fifteen responses. Responses came from Czechia, Finland, Italy, the Netherlands, Portugal and Turkey (and potentially even more countries, as it was voluntary to indicate the country).

This chapter includes many suggestions by interviewees. Mostly, these reflections depend on the specific situation of the interviewee, or they include elements that are not feasible to include in SELFIE given the SELFIE approach. In chapter 4, on the basis of the suggestions from interviewees, a choice is made about what is feasible in adjusting SELFIE to work-based learning.

3.2 Stakeholders' reflections on first encounters with SELFIE

The consultation revealed that for most of the interviewees, this consultation was their first encounter with the SELFIE tool. Only some indicated that they had already been informed during the SELFIE pilot and its launch in 2018. The interviewees were asked to explore the SELFIE tool and register as a 'mock' school. A majority did this and were able to obtain a good insight into the tool, and to provide valuable suggestions.

The interviewees expressed their general appreciation of the SELFIE tool as it stands. A VET providers' association had already tested the tool in one of its VET colleges, gathering questionnaires from 79 students, 10 teachers and 2 school leaders. They 'had a great time experimenting with the SELFIE tool'. Furthermore, the board (covering 20 VET centres) is now enthusiastic about also applying SELFIE in the other VET centres. Other VET providers interviewed showed interest in undertaking the exercise in the near future, after being informed about the SELFIE tool.

¹⁶ saMBO-ICT is an independent organisation of and for all VET institutions in the Netherlands. saMBO-ICT is supporting developments in VET institutions concerning the use of ICT in the learning process.

¹⁷ The Federation of Austrian Industries is the voluntary and independent representation of the interests of Austrian industry and its related sectors.

When asking interviewees about the added value of SELFIE, compared to similar existing tools, **interviewees indicated that the tool is quite unique in the VET landscape**. Although reference was made to existing surveys of the role of ICT in learning and teaching, interviewees indicated that these are often launched for research purposes (such as by the Finnish Education Evaluation Centres, or by the HAN University of Applied Science in the Netherlands which developed a monitor for learning and teaching with ICT)¹⁸ or are developed for internal organisational purposes. Interviewees also indicated that other surveys have a narrower focus compared to SELFIE, for instance only looking at the use of digital technology for learning purposes. Interviewees value the broad focus of SELFIE, as well as the fact that it includes different target groups in the self-reflection assessment (such as school leaders, teachers and students). Still other interviewees indicated that SELFIE was too narrow in its focus, and that it could look at broader topics including digital. Also, in relation to the monitor for learning and teaching with ICT, it was indicated that no overlap with SELFIE was identified. Both tools have a different purpose and focus on different aspects related to digital technology in education.

At European level, interviewees indicated that it is good that the European Commission is taking this up. Research in general (comparative reports and studies) supports Member States and stakeholders to make connections between different policy fields (such as 'digital' and 'work-based learning'), and the SELFIE tool allows conversations to be started at all levels, on how to better embed digital competences and job-specific digital skills into work-based learning and VET more generally. **Despite both work-based learning and digital competences being high on the European agenda, this topic still receives limited attention at the level of VET institutions**. As expressed by one interviewee, an explanation for this could be that people working in VET usually originate from work practice and often have a more limited orientation to digital tools, compared to lecturers in higher education or school teachers (depending on the level of digitalisation in the sector, of course). Interviewees appreciate the fact that the questions are understandable, the translations are well done and the tool is highly adaptive, for instance in showing real-time statistics on response rates from the groups consulted (students, teachers and school leaders). Other interviewees, however, found several instances of bad translation (e.g. in Spanish, Greek and Romanian).

3.3 Would VET institutions and companies involved in work-based learning be interested in using the SELFIE tool? What is needed to convince them of its usefulness?

3.3.1 Relevance for VET providers

From the perspective of VET providers, interviewees consider SELFIE highly relevant. It provides them with the opportunity to conduct regular evaluations of how they use and apply ICT in education and in their organisation. At the same time, interviewees indicate that the tool should do more than measure how their organisation stands on a number of indicators, and should better explain what they can do with the instrument and how it can facilitate change processes in the organisation. It should mention **how SELFIE supports the organisation in taking next steps (for instance by showcasing good practices; providing recommendations; suggesting relevant tools)**. By better explaining this at the start, it could increase interest from VET providers. Interviewees point out that the VET sector is highly dynamic, and many questionnaires are launched annually, so the added value of the tool for VET providers, as well as companies, needs to be very clear. (In what way will participating in SELFIE improve the quality and efficiency/effectiveness of the organisation and the learning provided? What next steps can be taken after participation and how will that be of benefit for my organisation?).

Interviewees acknowledge that **increased attention to digital competences** and job-specific digital skills can make the whole organisation more efficient, meaning less time spent on peripheral business (administration, planning, scheduling etc.), and **allowing for more time and attention on the core business, which is quality education and training**.

Furthermore, another interviewee indicated that VET providers need to continue to respond to the needs and demands of the labour market. For this, 'we need to know our digital capacities to reply to the digital challenges

¹⁸ Interestingly, HAN in the Netherlands monitors the use of digital learning sources in education, according to the following four domains: (1) vision; (2) expertise; (3) digital learning material; and (4) ICT infrastructure. This categorisation shows great similarity with that used in SELFIE, although more emphasis is given to the digital learning material in place. See: Ixperium (n. d.); Van Rens, Kral, Hölsgens, and Uerz (2017).

posed to our graduates in the labour market'. Furthermore, as expressed by the VET provider, 'it is really useful for us if the companies we collaborate with also assess their own digital competences and job-specific digital skills so that we are better aware of the quality of the digital learning environment in companies. It is important for us to know that our students are working in a quality environment.'

In addition, **marketing is mentioned as a potential application of SELFIE for VET providers**. On completing SELFIE (and receiving some acknowledgement for this), VET providers can show learners and companies that they are seriously working to further embed ICT and digital tools in the organisation, and in teaching and learning. In this way, it could function as a kind of quality seal.

VET providers also mention the potential for comparison and learning between VET providers. The interview with a Dutch VET provider clearly indicates that the potential for identify colleague VET providers, who have the same vision and apply approaches from which their organisation can learn, would be beneficial for them (clustering VET providers according to a 'community of practice', which is not currently part of the SELFIE tool). As the interviewee points out: 'I am much interested in fellow VET providers that could help me further'. **Interviewees indicate that benchmarking is not always desired by VET providers.**

Other interviewees mention that the self-reflection can contribute to strengthening the relationship between VET providers and companies involved in training provision. This strong relationship is considered a prerequisite by all interviewees for quality work-based learning (and in fact a quality VET system). However, at the same time interviewees see that countries both inside and outside Europe find it challenging to establish these strong relationships and to convince employers (especially SMEs) to engage in the continuous development of work-based learning and apprenticeship schemes. Table 3.1 provides an example of well-established cooperation between VET institutions in the Netherlands on the use of ICT in education.

Table 3.1: The Netherlands: saMBO-ICT

saMBO-ICT is an independent organisation of and for all VET institutions in the Netherlands. saMBO-ICT is supporting developments in VET institutions concerning the use of ICT in the learning process (saMBO-ICT, n. d.). To this end, it organises many activities, from network meetings around information security and privacy, to knowledge sharing between user groups of the most important applications.

As expressed by saMBO-ICT, VET institutions are looking for tools to map and assess their digital readiness. When the situation can be measured, actions can be taken to improve the situation.

Although VET providers and other interviewees acknowledge that SELFIE is highly relevant for VET providers, interviewees also raise the issue that **it might be difficult to motivate VET teachers involved in work-based learning to fill in the questionnaire, as this means extra work and digital competence does not play a large role in many VET specialities**, so they do not directly understand the usefulness for their work in filling in the SELFIE questionnaire.

Another issue raised by interviewees is whether SELFIE could be relevant to the wide variety of approaches in VET and work-based learning. While in general education, approaches to education pathways are fairly similar (receive good preparation for further learning, and for entering education and training programmes that are job-oriented; become a well-prepared citizen); in VET, programmes have very different occupational orientations, demanding different (digital) skillsets. Moreover, within VET providers, digital learning sources are often developed by a team of teachers with a lot of autonomy, leading to different approaches to digitalisation within one VET provider, also stimulated by the myriad of VET qualifications provided by the VET provider. Would SELFIE therefore need tailoring per occupational orientation? In that case, how could results be aggregated? **VET providers and other interviewees agree that SELFIE should not become too tailored to specific occupational characteristics.** SELFIE needs to remain a self-reflection tool for engaging all different stakeholder groups in the discussion of digital readiness, and therefore the questionnaire can remain more broadly applicable to a diversity of occupational sectors. Besides, interviewees indicated that there is always the possibility of adding questions to the questionnaire.

3.3.2 Relevance for companies

The engagement of companies in SELFIE is considered highly valuable by all interviewees, especially for SMEs. It could provide them with a relatively easy method to reflect on their own organisation on the basis of the SELFIE questions. Through this, it can motivate them to digitalise their training and the company. It could also increase their awareness of digital/simulation tools that make it more attractive to take up apprentices. As expressed by some interviewees, companies also hesitate to engage in apprenticeship training because of the fear that apprentices might break expensive equipment. Simulation tools could remove this fear, and SELFIE could make companies aware of these possibilities. Companies could also be sensitive to using SELFIE as a quality seal for marketing purposes. Through SELFIE (upon receiving some form of acknowledgment for participation), companies would be able to show clients, learners and VET providers that they work on embedding digital tools and competences in the learning processes in their organisation.

Companies are making increasing use of digital tools in providing continuing professional development, as expressed by one interviewee, and hence the SELFIE tool could also be a relevant tool to assess the use of digital tools for learning in companies. In addition, one company commented that they are familiar with the way the SELFIE report is presented, as it looks to them like a scoreboard.

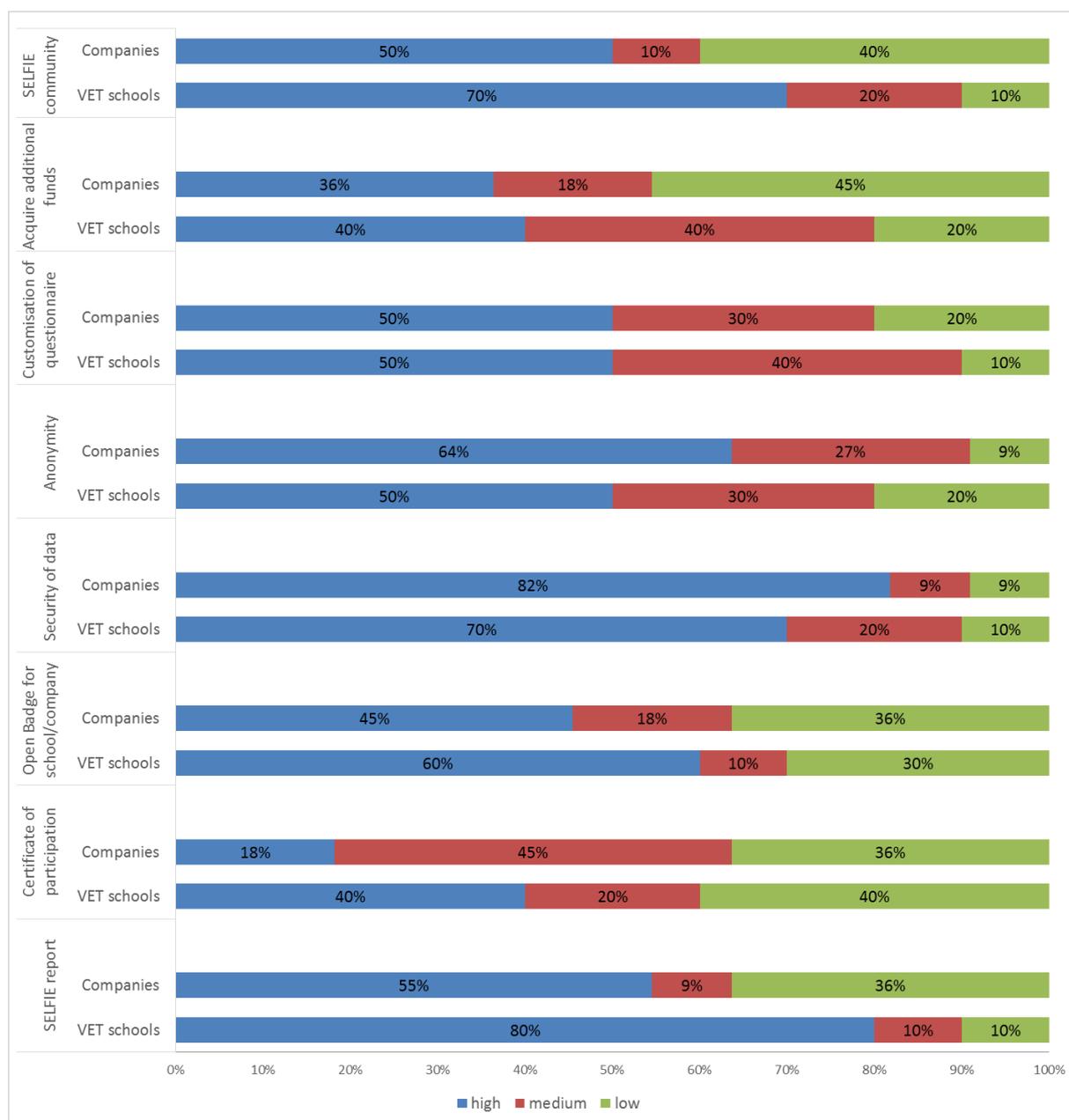
One VET provider also highlighted that SELFIE could provide feedback on training provision in companies, so that they can also improve on this aspect. One issue is that companies may initially need assistance from the VET college to fill in the survey. Especially for many SMEs, it is unrealistic to have the SELFIE tool filled in by many companies without a support system whereby someone from the VET institution assists them to fill in the questionnaire. Another interviewee also indicated that it might be difficult to get SMEs involved in SELFIE, but that it could work if VET providers are coordinating it from the educational side. One interviewee said that SELFIE should be linked to government initiatives, or initiatives by local, regional or national actors, to convince companies (in particular SMEs) to participate.

A key factor in convincing companies is how the results are presented, and what they could do with them. Will it enable them to learn lessons directly? Does it lead to efficiency and quality improvements? Are there clear recommendations, or next steps? If this is not well developed, companies will regard it as just another survey that they have to fill in, and consider it an administrative burden. Furthermore, **the questionnaire from the company side should be simple and short**. It should balance the time needed to fill in the questionnaire with the level of detail needed, to ultimately present results that can be effectively used to instigate change processes in the VET provider and company with regard to the use of digital tools.

3.3.3 Comparing VET providers and companies

For both VET providers and companies, it is valuable to reflect on what digital technology is available on both sides, and how these technologies can be used to improve the quality of training. The web survey, despite the low number of responses, confirms the picture acquired through the interviews as to the relevance discussed above: the respondents see that VET providers are more interested in using SELFIE than companies. Figure 3.1, based on only a small number of responses, shows many comparable items for VET institutions and companies, in terms of the relevance for convincing them to use SELFIE. A noticeable difference is the relevance of the SELFIE community, and the possibility of acquiring Erasmus+ funding. These seem more relevant for VET institutions. In general, the anonymity and security of data are considered highly relevant aspects in convincing both VET providers and companies. Also (more for VET providers than companies), the SELFIE report is a trigger for convincing providers.

Figure 3.1: How high is the relevance of the following SELFIE features in convincing VET schools or companies to use SELFIE for WBL? (N=15)



Source: SELFIE WBL consultation web survey

N.B. The detailed categories were: SELFIE report; Certificate of participation (for each individual participant, signed by European Commission); Open Badge for school/company (can be used on social media or website); Security of data (data is stored on European Commission servers); Anonymity (individual schools/companies and individual participants cannot be identified; SELFIE report is only accessible by school/company); Customisation of questionnaire (own questions can be added); Possibility to acquire additional funds (ERASMUS+ calls); SELFIE community (learning from others' experiences in using digital technologies)

According to the web survey, in terms of likely benefits of using SELFIE for both VET providers and companies, the improved monitoring of training over time and the improved cooperation between companies and VET providers are highly ranked. Another benefit that is mentioned by a larger group of respondents is satisfaction among trainers and learners due to active involvement in the topic.

3.3.4 Other/new functionalities for SELFIE proposed by interviewees

The interviews foresaw some interesting (new) functionalities for SELFIE:

- One functionality mentioned by some interviewees among VET providers and companies that SELFIE should cover is **matching supply and demand between workplaces and workplace learners**. Many VET institutions and companies struggle to secure enough workplaces for their learners, and a tool to support this matching would be much appreciated. This is a highly prominent issue in work-based learning, which needs better coordination. The interviewees call for tools to do this better. Also, interviewees indicate an urgent need for VET providers to find companies interested in offering workplaces for learners. However, it remains to be seen whether this should be a task for SELFIE at all. SELFIE is first and foremost a self-reflection tool and not a tool to solve operational issues within the education or VET sector. It could, however, be used to raise this issue by including a question on satisfaction with matching mechanisms, and a question on whether digital tools are used to match supply and demand between workplaces and learners.
- Another important functionality mentioned in the interviews is that SELFIE should be able to **map digital competence and job-specific digital skills needs of companies** to provide input for VET providers to tailor their provision of digital competences and job-specific digital skills. One interviewee indicated, for instance, that to convince companies, SELFIE should be able to ‘validate the digital competences and it should include questions on the acquisition of competences which are related to company’s processes and functions’. However, it is questionable whether this should be a function of a self-reflection tool such as SELFIE.
- Another functionality mentioned in the interviews is that SELFIE could more broadly **map work-based learning settings in terms of quality standards for apprenticeships**. SELFIE could be used to self-reflect on whether companies comply with standards for quality work-based learning and apprenticeships. One interviewee even suggested that SELFIE becomes a tool to pre-assess companies on their readiness to welcome apprentices. Here too, one could ask whether this is not too broad a functionality considering what SELFIE is designed for.
- Another functionality that was mentioned is that SELFIE could be used to **map whether (students) wish to continue their career in this field**. Countries have problems with high dropout rates, and changing studies after finishing apprenticeships, thus there is limited buy-in by companies. SELFIE could help to limit dropouts to some extent, by determining the needs of students and addressing these before it is too late.

Given the potential functionalities mentioned above, it should be clear that SELFIE is not a panacea for national problems and challenges in apprenticeship schemes and systems, and other forms of work-based learning provision. It should remain a self-reflection tool for the organisations involved in the organization and provision of education and training. It remains a tool that can support further developments and progression by offering self-reflections but cannot itself offer the solution to existing challenges in work-based learning contexts. It could, however, facilitate the awareness raising of national challenges by starting discussions on formulating responses to those challenges. From the discussions it becomes clear that there is a need for tools, other than SELFIE, which cover the functionalities as described above. In future expansions of SELFIE, some of these functionalities could be taken into consideration.

3.4 Is there a favourable modality of WBL to form the basis for adapting SELFIE to WBL?

In the desk research into differences between work-based learning schemes and systems in Europe, two modalities were identified that could be taken into account when adapting SELFIE to work-based learning.

- **Modality 1:** VET schools and companies cooperate, and both need to be involved in filling in the SELFIE tool (the self-reflection crosses institutional boundaries and is not limited to being filled in by one institution) → **VET schools coordinate** the self-reflection exercise.
- **Modality 2:** Companies are the main learning venues (i.e. the majority of learning takes place in companies) → **companies coordinate** the self-reflection exercise.

The first modality requires the least amendment to the current SELFIE tool. The overall approach remains the same: an educational institution leads and coordinates the exercise. A coordinator in the education institution further finetunes the questionnaires and invites stakeholder groups to answer the questions. The addition to

the current tool is that learning companies are added as stakeholder groups. Furthermore, the existing questionnaires for school leaders, teachers and students require amendment.

The second modality could require a substantial change, as the coordinator is no longer an education institution but a company. This means that the stakeholder groups that answer the questionnaire need redefining, and that the questions need a fundamental rethink (changing the whole perspective from 'education' to 'company').

The interviewees are generally more in favour of modality 1, or consider this the most realistic. They agree that the company perspective should be added to SELFIE, but that this could be done best while still coordinated by a VET institution. Many interviewees also refer to it being unrealistic to expect many companies (and SMEs) to use SELFIE independently and autonomously. In many countries, companies still have limited interest in work-based learning and when they are involved, coordination of the learner placement is still conducted by the VET provider. The respondents to the web survey also indicate a preference for focusing on modality 1.

However, modality 2 should not be disregarded, as also indicated by interviewees. In certain systems — such as the Austrian dual system, or the German system with in-company training centres — it would be in the interest of companies to complete the SELFIE exercise, as they have a long-standing tradition of organising the apprenticeship training internally or with other companies within a sector, independently from the VET provider. The interviewees consider, however, that there are not too many companies in Europe that would be interested in SELFIE, and that those that would be interested are probably the larger companies or sector institutions that are well developed in this direction. It will not be realistic to assume that a large majority of SMEs will use SELFIE under this modality. Another challenge is that it is considered difficult to clearly distinguish between using digital for training purposes and using digital to support the overall company process. While in schools (and VET providers), this distinction is not problematic as the overall school process is linked to the training, this can be very different in companies. A manufacturing company might, for instance, have established ICT support for employees involved in the manufacturing process. This, however, would not fall within the scope of the SELFIE tool, as SELFIE only concerns the use of ICT in training learners. What interviewees indicate is that modality 2 is 'too ambitious at this moment' and that plans in this direction could better be developed further after initial experiences with companies involved under modality 1. Modality 2 should 'be developed at a later stage'.

A problem with modality 1, as indicated by interviewees, is that companies might have contracts with different VET providers that will run SELFIE independently from each other (or even different departments within VET providers that run SELFIE independently). Companies could thus receive invitations to participate from multiple sides, and have to decide whether they would like to participate in one or the other (or all of them). Participation by companies should be discussed between the VET institution (as coordinator) and the company (as respondent) before sending out the invitations.

The interviewees react positively to the further involvement of companies, as this can contribute to solving one of the bottlenecks in many VET systems — namely the lack of interaction, coordination and communication between the VET provider and companies. VET providers and companies need to interact on the learners' contract, the learning/working schedule, which learning outcomes are covered in the workplace learning, assessment and examination, etc. If SELFIE can refer to digital tools to ease this cooperation in future, this would mean a substantial gain for the VET sector. Some interviewees, however, indicate that strengthening bridges between VET provider and companies is too big a topic to discuss in the context of digital and ICT only. It relates to the broader question of how to organise VET as closely as possible to the labour market, to strengthen the direct feedback loop and be more responsive to changing labour market needs. SELFIE can however provide some support in building better relationships between VET providers and companies in relation to a specific topic of interest to both sides; namely, how to use digital technology to improve learning by learners in the VET institution and the company.

In addition, interviewees refer to the involvement of Chambers of Commerce and other intermediary bodies (e.g. SBB in the Netherlands) that play a role in the organisation and coordination of work-based learning. These organisations should be involved in SELFIE in the future.

Generally, interviewees representing VET providers consider the SELFIE tool as an opportunity to receive feedback and hear the voice of employers on their digitalisation services, as a sort of client satisfaction survey.

3.5 What needs to change in the SELFIE questionnaire to make it applicable to WBL?

The interviewees provided input on adjusting the SELFIE tool and SELFIE questionnaire to be applicable to work-based learning settings in formal VET. They focused primarily (almost exclusively) on modality 1 (option where education and training institutions and companies cooperate, and both need to be involved in filling in the SELFIE tool - the self-reflection crosses institutional boundaries and is not limited to being filled in by one institution). In this section, the suggestions are discussed in relation to this modality. Furthermore, at the end, some thoughts are shared on what needs to be changed to make SELFIE fit with modality 2.

3.5.1 SELFIE tool and types of respondents

As modality 1 starts from the idea that VET institutions (i.e. educational institutions) still fulfil the role of coordinator, the **SELFIE tool does not require a fundamental change**. Interviewees indicated that it would be good to 'stick to the existing setup' since most questions clearly resonate with the VET context and are considered relevant.

The interviewees indicated that the questionnaire for 'teachers' should be adjusted to also fit company mentors, or that a separate questionnaire should be developed for companies, largely based on the teachers' questionnaire. The latter option received most agreement from the interviewees. Interviewees indicated that this company questionnaire should be kept short and concise, so as not to overburden companies. Another suggestion was to ask as a fifth group the managers, or in other circumstances the staff, who directly work with apprentices (but do not do anything related to training). One interviewee mentioned that parents should also be added as a group to fill in the SELFIE questionnaire as 'parents are also an important stakeholder in apprenticeships'. Given that this argument would also be true for school education, however, and that SELFIE as it stands does not engage with parents in school education, this suggestion is not explored further¹⁹.

The 'title' to use in addressing interviewees for this company questionnaire depends on the context. Some interviewees referred to the company tutor or mentor; others referred to the human resource department or even the company owner. A suggestion that might cover the different options is to use the term 'apprenticeship coordinators/in-company trainers'. All agreed, however, that the one targeted in the company should have an overview of the work-based training that takes place. It was suggested that therefore the 'title' should be adaptable by the SELFIE coordinator, or that various options could be provided to the coordinators so they could choose the most fitting one for their context.

In terms of the current terminology used throughout the SELFIE questionnaire, interviewees gave a number of suggestions for amendment.

- 'School' replaced by 'VET institution', or where appropriate by 'company'. Furthermore, in relation to the students, the phrase 'in our school' is used (see Area F - student digital competences). This is confusing in the context of work-based learning as there are actually multiple learning venues in which the learners acquire competences. Here, it would be better to refer to the training programme in which the learner is enrolled.
- 'Teacher' replaced by 'teacher/in-school trainer'.
- 'Student' replaced by 'learner'. Apprentices sometimes have their own status or are considered employees. Hence the term 'student' is not completely fitting here.

3.5.2 Areas and phrasing of questions

As indicated, the SELFIE questionnaire currently consists of the following areas:

- Area A: Leadership
- Area B: Infrastructure and Equipment

¹⁹ However, the SELFIE team is planning to involve parents in the future by adding a dedicated questionnaire for them. Adding this questionnaire would be optional and up to the school to decide, as the SELFIE team wishes to offer the possibility only to those schools that want to reach out for the opinions of parents.

- Area C: Continuing Professional Development
- Area D: Teaching and Learning
- Area E: Assessment Practices
- Area F: Student Digital Competence.

The interviewees indicate that all these areas remain relevant in the work-based learning context, and that either within the existing areas or in separate (new) areas the following topics could receive more attention.

- Is digital technology used within the VET institution or company to organise and deliver the teaching and learning more efficiently?
- How is digital technology used to support cooperation between VET institution, company and learner?
- Is digital technology used in the guidance of learners? (This can be highly relevant when the work placement is abroad.)
- Do teachers and/or in-company trainers have the competences to apply digital technology in education?

It was also suggested that students are asked about their satisfaction with their 'user experience'. Only assessing whether specific services are provided is not enough to come to a critical reflection on whether the learners are satisfied with what is provided.

The interviewees indicate that some areas are of more interest to companies than others. The company questionnaire should therefore only ask about those areas which are of interest to companies. For instance, CPD (area C) would not fit the company context, considering that in a company, CPD is not always linked to training the apprentices. Other areas mentioned that might be less relevant include the leadership area A (being covered by the VET institution), and the assessment practice area E (mostly conducted under the supervision of the VET institution).

Interviewees also indicate that, ideally, one would develop a separate questionnaire per occupational sector. Each sector uses digital technologies differently; thus, asking generic questions might not elicit very useful information for the companies. Interviewees themselves acknowledged that this would probably not be feasible, and that SELFIE only provides the starting point for a (much needed) discussion between VET institutions and companies, on how to better use and embed digital technologies. Furthermore, developing highly specific questionnaires makes them vulnerable to becoming outdated fast, due to the rapid changes in digital technologies. SELFIE should allow customisation for sectors, with options to add questions that are more specific and relevant to the companies. In addition, there was a suggestion to add a free text question, which would allow more detailed information to be gathered (for instance about recommendations/feedback for the VET institution in applying digital technologies in WBL).

The following are suggestions of areas and questions to add into the company questionnaire.

- **Does your company allow the use of the most up-to-date equipment for in-company training of learners?** Employers are sometimes afraid of apprenticeships because they do not want untrained workers to practise with expensive equipment. This information could be relevant for the VET institution to know, so they can improve digital skills of students and offer more simulation tools in order to prepare students better for their work placement.
- **Do learners have sufficient digital competences and job-specific digital skills when they start their work placement?** It would be interesting to know how companies assess the digital competences of the learners when they start their work placement. This would provide feedback to the VET institution on whether or not the learners are perceived as well prepared.

Some interviewees refer to 'completing the feedback loop' between companies and VET institutions, and would like to see questions posed to companies on whether – upon graduation – the learners indeed have the desired digital competences and job-specific digital skills, or even what the desired digital competences are that graduates should have in the future. This not only concerns work-specific digital competences, but also wider ones such as data protection, responsible handling of technologies, and critical thinking. These questions would need to be asked of employers of graduates, or a broader set of companies. These are not necessarily the same as the companies that are targeted with the fourth company questionnaire, as described above.

Interviewees provided more detailed suggestions for questions, as shown in Table 3.2.

Table 3.2: Respondents' suggestions for questions

Respondent	Suggested question
School leader and company	<p>Does learning in the VET institution have a direct relationship with the real world, and what is done in companies? (Digital learning should not be abstract.)</p> <p>Are digital tools used both in school and in companies for training?</p> <p>Is the content of digital learning coordinated (or developed) between VET institution and company?</p> <p>Is digital learning applied in VET institution and company?</p> <p>Is there (sufficient) communication between VET institution and company?</p> <p>Is technology used effectively to make a connection between school and work-based learning?</p> <p>Is there a joint strategy between VET institution and company?</p> <p>Does your school work with companies/representatives of the labour market to assess the need for digital competences in your school's areas of training?</p> <p>Do you think that your school teaches the right IT skills for your students to find a good job or start a business in your area of training?</p>
School leader	Do many companies in your environment work with digital learning tools?
Company	Do you think that the school teaches the right IT skills for your students to find a good job or start a business in their area of training?
Learner	Do you want to stay in the field after the apprenticeship?

3.6 What need to be the outcomes for the self-reflection to make SELFIE relevant to VET institutions and companies involved in WBL?

The interviewees see considerable potential for improvements in how the results of SELFIE are presented and to whom, to make SELFIE more relevant to VET and work-based learning. The following lines of thinking were provided.

- The data should be used to provide **benchmarks** to a local, national or European sample of completed self-reflections. In its current form, the SELFIE results are rather static and do not allow for comparison with other organisations, or provide any idea of how your own institution is scoring in comparison to others.
- The data should also be available to **higher-level organisations**, such as umbrella organisations in the VET sector or national-level stakeholders (governments). In many countries, VET providers operate under larger VET councils or VET associations. These associations have an interest in improving the quality of education and training, and providing information on how different VET providers (and their companies) score on using digital could help them a lot in further supporting the VET providers and companies. This would position SELFIE as a policy instrument.
- The data should also be directly available to the **participating companies**. If the companies do not provide direct feedback, it does not support them at all in further developing their use of ICT in training. If this is not done, it will be difficult to convince companies to participate. Hence, some way of providing direct feedback will have to be facilitated by the SELFIE tool, perhaps even benchmarking them against other companies that participated in the SELFIE tool coordinated by the same VET provider; or even allow for benchmarking them against local, national or European companies that participated in SELFIE. This of course raises issues of anonymity, and comparability of results as companies are very different.

The interviewees also reflected on what kind of additional input is actually needed to further progress in the use of ICT and digital in VET providers and companies. They indicate that only showing 'plain results' from the survey is not sufficient. The SELFIE tool should provide more tailored suggestions for further reading (based on weaknesses identified), showcase good practices for instance of 'digital strategies', and reference useful tools for different aspects (such as cooperation between VET providers and companies). Many interviewees refer to setting up a community, or user groups, to further exchange this information and provide peer support.

Furthermore, the results are currently only visible in the online environment. It is currently very difficult to extract the results in a presentable way to show them to a wider audience. This is required especially when you want to start broader discussions with VET provider internal stakeholders, as well as with external stakeholders such as governments ('institutions know the gaps, but do not have the resources to further develop. SELFIE could be used to identify these gaps and start discussions with the government about finding additional funding support').

An issue with the presentation of results and with benchmarking that is stressed by interviewees is that data protection and privacy regulations need to be maintained at the highest levels. Results should never be traceable to an individual person that filled in the questionnaire.

Interviewees appreciated the formal acknowledgement built into the SELFIE tool at institution level (open badge) and individual level (certificate of participation). This acknowledgement could also be used for finding partners in the Erasmus+ and other programmes.

3.7 What are further recommendations on improving SELFIE for apprenticeships and WBL and communicating SELFIE effectively in the sector?

The interviewees mentioned a number of other recommendations for SELFIE in work-based learning. These are discussed below.

- A first recommendation is **to revise the DigCompOrg framework**. The DigCompOrg framework forms the theoretical basis for the current SELFIE tool. The framework was developed to fit any educational organisation. To adjust SELFIE to work-based learning, the foundational work on the DigCompOrg framework could actually be reconsidered. This would lead to a model for where digital could play a role in work-based learning and more generally in educational systems, similar to the existing framework for schools.
- A second recommendation, being mentioned by a number of interviewees, is **to broaden the SELFIE approach to other topics besides digital**. If the method of self-reflection works for schools, VET providers and companies in digital, it could also work in, for instance, 'quality of apprenticeships (linked to the European Framework for Quality and Effective Apprenticeships)', quality assurance, communication strategy, etc. This should be taken up in a newly developed tool inspired by the SELFIE approach.
- A third recommendation is **not to be overambitious**. It is already complex enough to adapt SELFIE to the wide diversity of work-based learning settings (different modalities, different sectors, different levels of use of ICT, different types of companies, etc.). Hence, the first adaptations need to remain fairly modest, accepting that there will not be a perfect match between the SELFIE approach and all different work-based learning settings.
- A fourth recommendation is to provide **additional guidance and support to VET providers and companies in working with SELFIE**. This includes (online/video) manuals for coordinators on using SELFIE and tailoring SELFIE to the specific work-based learning context, as well as on dealing with inviting stakeholders outside of their own organisation (i.e. companies). This is a new element in SELFIE, introduced through expanding to the work-based learning context, and coordinators need more support in approaching and guiding companies in filling in the SELFIE questionnaire. VET institutions could be provided with roadmaps by SELFIE on how to approach the training companies, convince them to participate, provide clear indications of the workload in participating, and provide them with support in filling in the questionnaire.
- A fifth recommendation is to develop **specific promotional materials to convince companies to participate in SELFIE** when they are approached by a VET institution with whom they cooperate. This

material should present a business case on how SELFIE could be beneficial for them. A possible business case could be that, due to the mapping exercise, the company is made aware of inefficiencies in training delivery and that there may be digital solutions to solve these inefficiencies.

- A sixth recommendation is to use **the existing platforms to further disseminate SELFIE for work-based learning**. Relevant in this regard are the ET 2020 working groups; European networks of VET providers (such as EVTA, EVBB, EFEE, EfVET and EUpVET); and the European social partners BusinessEurope, ETUC and SMEUnited.
- To conclude, interviewees suggested a variety of potential functionalities for the SELFIE tool that it cannot cover (such as becoming a skills forecasting instrument or a quality assurance mechanism). It could, however, support the development of a community with a dedicated platform for exchange of practices to generally enhance use and provision of digital technologies in work-based learning. On broader issues, SELFIE should refer participants to existing platforms and communities (such as the European Alliance for Apprenticeship - EAfA).

Not all suggestions made in this chapter are directly implementable to adjust SELFIE to work-based learning. Some suggestions are not at all feasible given the nature of the SELFIE approach. In chapter 4, the most directly applicable suggestions are taken on board for further development of SELFIE for work-based learning.

4 Conclusions on feasibility and implications

4.1 Conclusions on the feasibility of adjusting SELFIE to work-based learning in VET

The feasibility study concludes that it is feasible to adjust SELFIE to work-based learning in VET. Given, on the one hand, the number of learners in VET and work-based learning programmes, the number of VET institutions and the number of companies involved in work-based learning, and on the other hand the EU-wide attention to work-based learning and digital technology in education, there is large potential for SELFIE to be applied widely in VET and more specifically in work-based learning. The study did not find any other tools in work-based learning that provide the same results. In addition, the interviewees indicate a need for a SELFIE for work-based learning, especially to bring VET institutions and companies closer in discussing how they jointly embed digital technology in the education and training provided.

Recommendation 1: adjusting SELFIE

It is recommended to make adjustments to SELFIE, as discussed below, to make SELFIE applicable to work-based learning contexts in formal VET.

4.2 Conclusions on a phased approach to adjusting SELFIE

The feasibility of adjusting SELFIE to work-based learning should, however, be done using a ‘phased’ approach: firstly allowing accommodation with minimal changes to the majority of work-based learning settings in formal VET, and secondly exploring more fundamental changes to cater for settings that are less widespread, but are quintessentially apprenticeships. This is further explained below.

The feasibility study identified and discussed two modalities.

- Modality 1: VET schools and companies cooperate, and both need to be involved in filling in the SELFIE tool (the self-reflection crosses institutional boundaries and is not limited to being filled in by one institution) → VET schools coordinate the self-reflection exercise.
- Modality 2: Companies are the main learning venues (i.e. the majority of learning takes place in companies) → companies coordinate the self-reflection exercise.

The study concludes that modality 1 is the most realistic for adjustment of SELFIE. Phase 1 should therefore focus on modality 1. The interviewees see most value in this modality, and indicate that it will be challenging enough to have companies participate in this modality, let alone have them conduct the SELFIE exercise on their own behalf. Furthermore, interviewees indicate that one of the overarching goals of SELFIE could be to start the dialogue between VET institutions and companies on digital technology embeddedness in teaching and learning. This could be facilitated best if both VET institutions and companies are involved in the same assessment. Finally, interviewees advised not to be too ambitious in adjusting SELFIE to the work-based learning context: they propose limited changes to make SELFIE fit.

However, it is still considered relevant (including by the interviewees) to further explore the possibility of adjusting SELFIE to modality 2. A second phase should therefore focus on modality 2. This could be based on initial experiences with companies using modality 1, and testing with them the possibilities of having companies take up the coordination role. Also, this further exploration could review the DigCompOrg framework that underlies SELFIE, to adjust this to companies.

Focusing on modality 1 makes SELFIE appropriate for most of the formal VET programmes that include some form of work-based learning, whether these are apprenticeships (most forms), or internships that are part of vocational/academic curricula or part of (mandatory) professional training. Work-based learning forms outside of formal VET programmes are not covered within modality 1. These forms include internships associated with active labour market policies (organised by public employment services), internships in the open market, and work-based learning in the context of CPD (self-organised by employers, employees and sector organisations). Modality 2 would cover the remaining apprenticeship forms (where the VET institutions have no coordinating

role), and could be relevant to internships in the open market, and to work-based learning in the context of CPD (self-organised by employers, employees and sector organisations). It would also be relevant to companies that work with several VET providers. The internships associated with active labour market policies (organised by public employment services) have an intermediate position as the public employment services (PES) could be regarded as the coordinator, inviting training companies to fill in the questionnaire. Hence, with some terminological adjustments, modality 1 could be applied to this form of work-based learning.

Furthermore, in the future, consideration could be given to expanding the SELFIE methodology of self-reflection to other topics of interest to the (VET) community. If the method of self-reflection works for schools, VET providers and companies in digital, it could also work in other contexts such as, for instance, 'quality of apprenticeships (linked to the European Framework for Quality and Effective Apprenticeships)', quality assurance, communication strategy, etc.

Finally, further expansion into CVET and lifelong learning, including non-formal learning, should be considered on the basis of experiences with modality 1 and 2, to also cater for the use of digital tools in learning by adults.

Recommendation 2: phased approach

It is recommended, in a first phase, to allow VET institutions and companies to jointly conduct the self-reflection, under the coordination of the VET institution (modality 1).

It is advised to learn from the initial involvement of companies, to further adjust SELFIE, in a second phase, to a modality in which the company is in charge of coordinating the self-reflection (modality 2). Further exploration of modality 2 requires a full revision of the SELFIE approach, in terms of how coordination is organised (currently by a school), the questionnaires currently developed, and also the scope of the self-reflection (only reflecting on digital technology in relation to learning, or also to company processes). This should be carefully prepared on the basis of the experiences with modality 1.

4.3 Conclusions on changes needed to the setup of SELFIE for work-based learning

Modality 1 does not require a fundamental change to the setup of SELFIE. The following adjustments are however proposed.

4.3.1 Adding a fourth questionnaire

Currently, the SELFIE questionnaires target school leaders, teachers and students. In involving companies, a **fourth questionnaire needs to be added to the existing three**. This questionnaire can largely be based on the questionnaire for 'teachers'. This questionnaire should be targeted to (and within) the companies that are responsible for workplace learning by formal VET students. A possible title for this stakeholder group could be 'apprenticeship coordinators/in-company trainers', but it could also be possible to have coordinators adjust the title to tailor it to their specific context.

This questionnaire should be concise and not overburden the companies with detailed questions that are not of interest to companies. If companies see participating in SELFIE as an administrative burden, this will decrease their willingness to participate in the future.

The coordinator in the VET institution should – on the basis of internal discussions on the scope of the self-reflection (institution level, department level, sector level, qualification level) – identify a group of training companies that regularly offer work placements to learners. The coordinator approaches them on whether they would like to participate in the SELFIE self-reflection. Furthermore, the coordinator explains what the VET provider would like to get out of this self-reflection and how the company benefits from the process. Upon agreement to participate, the coordinator will send the invitations to participate to the companies.

4.3.2 Improve accessibility and usability of results for different users

Currently, SELFIE allows the coordinator to see the results online in the SELFIE environment. This environment allows visually attractive interactive graphs. When coordinators want to export this to other environments (word processor, slide presentation software), however, the results are no longer very visually attractive or informative. For initiating discussions within VET institutions, but also between VET institutions and companies, **presentation of the results of the SELFIE self-reflection needs to be improved**. This includes the following features.

- Results need to be made available in an easier to read, offline format.
- Results need to be accompanied by more tailored suggestions for improvement, or referrals to good practices on specific issues. This could refer, for instance, to an online users' community.
- Results could include benchmarks where a VET institution is compared to other VET institutions at regional, national and/or European level. However, it must be borne in mind that benchmarking is against the spirit of SELFIE, being a self-reflection tool designed for internal discussion (within the school and in the future between schools and companies). Benchmarking may thus give wrong incentives to participants. Therefore, this proposal would need careful further consideration.
- Results on the digital readiness of the participating company also need to be made available to the company. Companies need to see the reflection in order to see the benefit of participating in SELFIE. This presentation of the company results could also include benchmarking, in which the company is compared to other companies in the same sector, region or country. Again, the caveats discussed above on benchmarking need to be carefully considered.

Furthermore, it should be further explored how SELFIE results could also be used by national authorities or VET associations to create national/sectoral self-reflections on how digital technologies are embedded in work-based learning in formal VET.

An issue related to how results are presented, is that the SELFIE only assesses the extent to which specific issues are in place and not whether teachers, trainers, learners or companies are satisfied by what is provided in terms of digital technologies. In the future, consideration could be given to including a set of satisfaction questions in the SELFIE questionnaire, to provide more depth to the self-reflection and the dialogue that starts on the basis of SELFIE.

4.3.3 Provide more tailored support and guidance materials

The SELFIE platform already provides support and guidance materials for schools. However, as VET institutions indicate, it is still difficult to fulfil the coordinating role. In work-based learning, with a fourth stakeholder group and increased variety in terms of context (e.g. occupational context, small or large companies), this coordinating role will only become more complex. This requires the provision of **more tailored support and guidance materials**, including tutorials or walk-through videos on how to set up a SELFIE self-reflection.

4.3.4 Adapt terminology to work-based learning

Currently, the SELFIE tool is focused on the school environment, and thus uses terms that do not fit the work-based learning context. The **terminology needs to be adjusted to this work-based learning context**. The main changes involve the following.

- **'School'** is not the best way to refer to VET providers. Some refer to themselves as schools, but others refer to themselves as VET institutions. An option is to use the latter: 'VET institution'.
- **'School leader'** might be a challenging concept in VET institutions. In many larger organisations, the application of distributed leadership results in sharing of leadership functions and roles (Cedefop, 2011). An option would be to refer to management positions.
- **'Teacher'** is not entirely appropriate in the WBL context. The study on teachers and trainers in work-based learning/apprenticeships provided an overview of different professionals involved in work-based learning (European Commission, 2017d). In the VET institution, general subject teachers, theoretical

subject VET teachers, practical subject VET teachers, and trainers/instructors can all be found. In the company, there are trainers, mentors and workplace or work-based tutors. When referring to the staff in the VET institution, an option would be to refer to 'teachers and trainers'.

- **'Student'** is not always a correct manner to refer to learners in apprenticeships and work-based learning. They may be considered students, employees or even have a specific status (apprentice). An option is to refer to them as 'learners'.

Recommendation 3: setup

The following are recommended to (in order of importance).

1. Add a fourth questionnaire for companies.
2. Change the terminology to make it fit the work-based learning context.
6. Improve the way results are presented (and to whom).
7. Improve support and guidance materials.

These two recommendations are also important to take on board in the further adjustment of SELFIE to work-based learning. Obviously, first the questionnaires need to be ready, but directly afterwards it needs to be clearly communicated how results are presented and how users are supported. This is needed to convince both VET institutions and companies to participate at all.

4.4 Conclusions on communication and dissemination of SELFIE for work-based learning

During the feasibility study, the research team – jointly with the JRC – spoke with many key stakeholders in VET and work-based learning. All of them appreciated being reached out to, and confirmed that there is a need to develop SELFIE for work-based learning. While the recommendation is to start the adjustment with (relatively) small changes, it is advised to continue to engage with this broader stakeholder group (see Annex B) in the further development of SELFIE, to further enhance ownership and commitment by these stakeholders and also to disseminate and communicate SELFIE to the work-based learning community in an effective manner. Relevant stakeholders' associations, organisations and groups to engage with include ET 2020 working groups; European networks of VET providers (such as EVTA, EVBB, EFEE, EfVET and EUproVET); and European social partners BusinessEurope, ETUC and SMEUnited.

This dissemination work can be further supported by providing input to existing platforms that can function as user platforms for exchange of good practices, providing more tailored suggestions for improving current situations in VET institutions and companies in work-based learning.

In order to convince companies to participate, specific promotional materials need to be developed. These could be provided to them when they are approached by a VET institution with whom they cooperate. This material should present a business case on how SELFIE could be beneficial for them. In addition, there is a need for further guidance and support for VET providers and companies in working with SELFIE. This includes (online/video) manuals for coordinators on using SELFIE and tailoring SELFIE to the specific context, as well as on dealing with inviting stakeholders outside of the own organisation (i.e. companies). This is a new element in SELFIE, introduced by expanding to the work-based learning context, and coordinators need more support in approaching and guiding companies in filling in the SELFIE questionnaire.

Recommendation 4: communication and dissemination

The following recommendations are made (in order of importance).

1. Develop promotional materials to motivate companies to participate in SELFIE.

This follows directly from the recommendations in the previous box. When the results are relevant to companies, it is easier to convince them. Based on the changes in presenting results, promotional material can be developed to approach companies.

2. Use existing structures to bring together SELFIE users at national and European levels to exchange experiences and share good practices.

Existing platforms within countries and at European level can fulfil a role as user platforms for SELFIE that can add to user experience of the tool. They can add more tailored suggestions for improvements, and provide users with practical tools so that they can continue working on improving their digital readiness.

3. Keep those already involved engaged in further developing SELFIE, and approach new stakeholder groups for future developments.

This is needed for further development and testing of SELFIE in work-based learning; also for modality 2.

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List of abbreviations and definitions

ALMP	Active Labour Market Policy
AppSS	Apprenticeship Support Service
Cedefop	European Centre for the Development of Vocational Training
CPD	Continuing Professional Development
Cursos EFA	Cursos de Educação e Formação de Adultos
CVET	Continuing VET
DG	Directorate General
DigCompOrg	European Framework for Digitally Competent Educational Organisations
EAfA	European Alliance for Apprenticeships
EC	European Commission
EFEE	European Federation of Education Employers
EFVET	European Forum of Technical and Vocational Education and Training
EMPL	Employment, Social Affairs and Inclusion
ET	Education and Training
ETF	European Training Foundation
ETUC	European Trade Union Confederation
EUproVET	Representational platform for European VET providers
EVBB	European Association of Institutes for Vocational Training
EVTA	European Vocational Training Association
HE	Higher Education
IAG-TVET	Interagency Group on Technical and Vocational Education and Training
ICT	Information and Communication Technology
ILO	International Labour Organization
IVET	Initial VET
JISC	Joint Information Systems Committee
JRC	Joint Research Centre
MS	Member State
NACE	Nomenclature des Activités Économiques dans la Communauté Européenne
OECD	Organisation for Economic Co-operation and Development
OFFA	Office of Francophone and Francophile Affairs
PROCAT	Prospects College of Advanced Technology
SELFIE	Self-reflection on Effective Learning by Fostering the use of Innovative Educational technologies
SME	Small and Medium-sized Enterprise
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNEVOC	International Centre for Technical and Vocational Education and Training
VET	Vocational Education and Training
WBL	Work-based Learning

Country list

AT	Austria
BE	Belgium
BG	Bulgaria
CY	Cyprus
CZ	Czechia
DE	Germany
DK	Denmark
EE	Estonia
EL	Greece
ES	Spain
FI	Finland
FR	France
HR	Croatia
HU	Hungary
IE	Ireland
IS	Iceland
IT	Italy
LT	Lithuania
LU	Luxembourg
LV	Latvia
MT	Malta
NL	The Netherlands
NO	Norway
PL	Poland
PT	Portugal
RO	Romania
SE	Sweden
SI	Slovenia
SK	Slovakia
UK	United Kingdom

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Annexes

Annex. Overview of consulted organisations, institutions and companies

Organisations	Country
BusinessEurope	International
EFEE	International
EfVET	International
ETUC	International
EUpVET / Mbo raad (Dutch VET Council)	International/ The Netherlands
Industriellen Vereinigung Austria	Austria
iXperium / Center of Expertise Leren met ict (learning with ICT) Hogeschool Arnhem Nijmegen (HAN)	The Netherlands
SaMBO-ICT (expertise centre for ICT in VET in the Netherlands)	The Netherlands
UNESCO	International
UNEVOC	International
VET institutions	Country
3 institutions	Finland
1 institution	France
1 institution	Germany
2 institutions	Greece
1 institution	Italy
6 institutions	Romania
1 institution	Spain
2 institutions	The Netherlands
Companies	Country
1 company: logistics	Austria
2 companies: automotive; finance	Germany

2 companies: public sector	Greece
1 company: services	Italy
6 companies: automotive, retail, food	Romania
1 company: services	The Netherlands

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