

Case study Slovenia

Microcredentials for labour market education and training

First look at mapping microcredentials in European labour-market-related education, training and learning: take-up, characteristics and functions

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2020-FWC9/JB-APOULIOU/Microcredentials-Learning&Employment/006/20

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Please cite this publication as:

Marentič, Urška; Mustar, Nika (2023). *Case study Slovenia: Microcredentials for labour market education and training. First look at mapping microcredentials in European labour-market-related education, training and learning: take-up, characteristics and functions*. Thessaloniki: Cedefop.

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CHAPTER 1. Introduction

When starting to explore the role of microcredentials in the labour market within vocational and professional education it is important to consider the wider national context and the national qualifications system within which VET operates.

For this purpose, introductory chapter of this case study presents basic information on national qualifications system and national context with key data on Slovenian education and training area. The data for the introductory chapter was collected through desk research and study of professional literature, legislation and other documents.

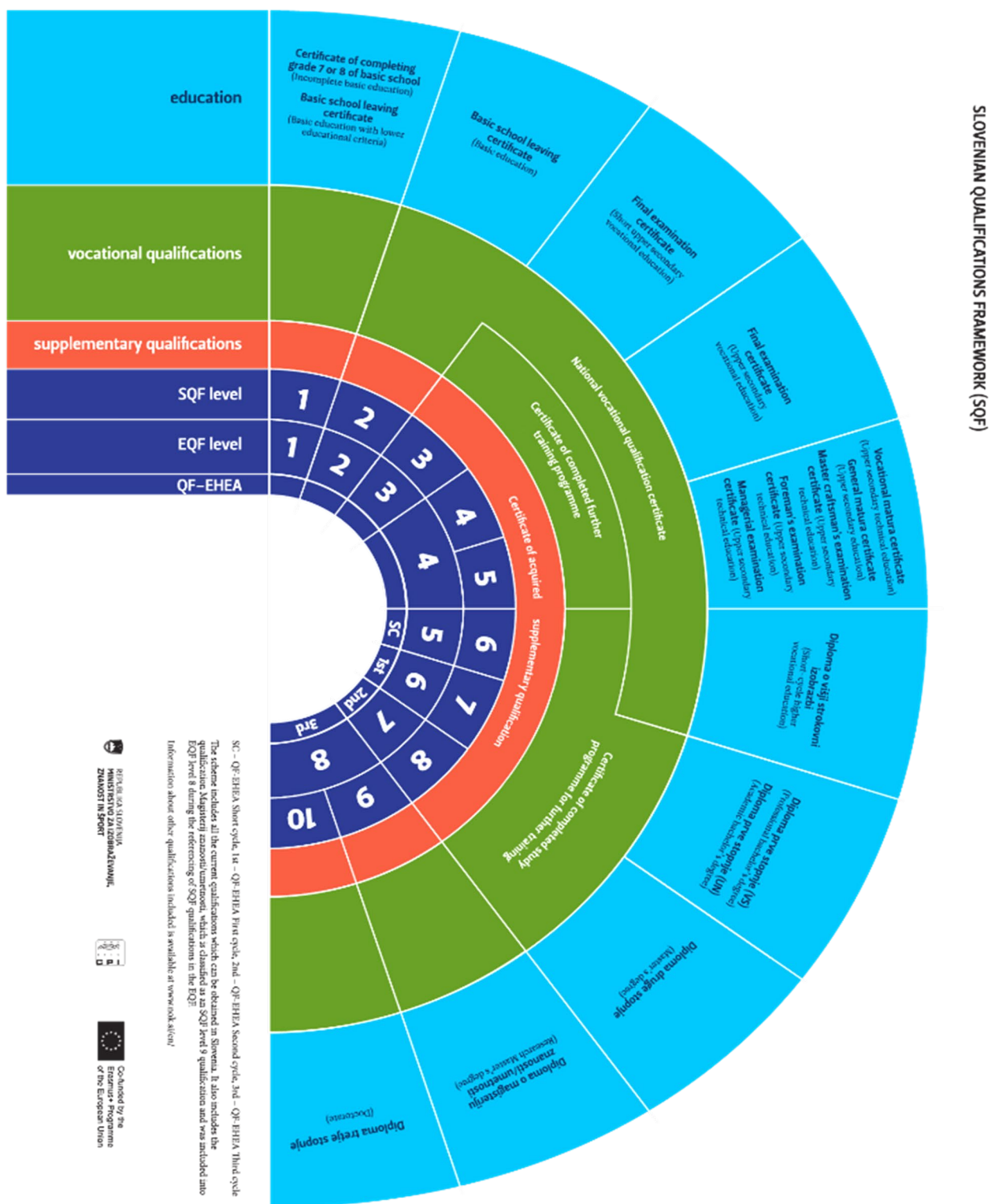
The national context that should be considered as starting point of discovering the phenomena of microcredentials on national level refers to a strong role of formal education in Slovenia (general education, VET and higher education), as well as a high rate of well-educated population and high proportion of students in vocational education and training, comparing to the EU average (Cedefop, 2020). Moreover, Slovenia has implemented a comprehensive NQF including all levels and types of qualification from formal education and training, from the system of national vocational qualifications and non-regulated supplementary qualifications.

1.1. National qualifications system in Slovenia

In order to initially present national qualification system in Slovenia, the starting point of the desk research is designated for The Slovenian Qualifications Framework, based on Slovenian Qualifications Framework Act ⁽¹⁾, as it represents a comprehensive and unified system of qualifications in the Republic of Slovenia for the classification of qualifications into ten levels with regard to learning outcomes. The ten SQF levels are linked to the eight EQF levels through the level descriptors of both frameworks (see Figure 1).

(1) Slovenian Qualifications Framework Act (ZSOK), <http://www.pisrs.si/Pis.web/pregledPredpisa?id=ZAKO6958>.

Figure 1. Slovenian Qualifications Framework (SQF) scheme



Source: www.nok.si/en/, 17.5.2021

The SQF includes three categories of qualifications covering all subsystems of formal education and training, as well as further learning:

- (a) educational qualifications are awarded after completion of formal education programmes at all levels of formal education (general, vocational/technical and higher);
- (b) vocational qualifications are awarded by an NVQ certificate, issued in accordance with the national regulations governing NVQs, or another document certifying completion of training or continuing education, issued in accordance with the regulations governing technical and higher education;
- (c) supplementary qualifications are acquired in further and supplementary training on the labour market (linked to supplementing abilities and competences) and not nationally regulated; they have strong labour market focus and are awarded by an employer, a group of employers or by the Employment Service of Slovenia.

All qualifications included in the SQF framework must pass formal accreditation procedure, according to the national legislation.

In order to explain the first category of qualification included in SQF - education, it is important to consider that the education and training system in Slovenia comprises of:

- (a) preschool education covering children from 11 months to six years old ⁽²⁾;
- (b) basic education integrating primary and lower secondary education (EQF levels 1 and 2) ⁽³⁾;
- (c) upper secondary education (EQF levels 3 and 4) ⁽⁴⁾;
- (d) tertiary education (EQF levels 5, 6, 7 and 8) ⁽⁵⁾.

Second category of qualifications included in SQF are Vocational qualifications that include three types of qualifications:

- (a) national vocational qualifications system enables recognition of the competences, gained in various learning environments, and obtaining a

⁽²⁾ Kindergarten Act, <http://www.pisrs.si/Pis.web/pregledPredpisa?id=ZAKO447>.

⁽³⁾ Primary School Act (ZOsn), <http://pisrs.si/Pis.web/pregledPredpisa?id=ZAKO448>.

⁽⁴⁾ Gymnasiums Act (ZGim), <http://pisrs.si/Pis.web/pregledPredpisa?id=ZAKO450>; Vocational and Professional Education Act, <http://pisrs.si/Pis.web/pregledPredpisa?id=ZAKO4325>; Matura Law (ZMat), <http://pisrs.si/Pis.web/pregledPredpisa?id=ZAKO2064>; Apprenticeship Act (ZVaj), <http://www.pisrs.si/Pis.web/pregledPredpisa?id=ZAKO7512>

⁽⁵⁾ Higher Education Act (ZVis), <http://pisrs.si/Pis.web/pregledPredpisa?id=ZAKO172>; Higher Professional Education Act (ZVSI), <http://pisrs.si/Pis.web/pregledPredpisa?id=ZAKO4093>.

- formal vocational qualification, a publicly recognised document (NVQ certificate);
- (b) CVET programmes at EQF levels 4 and 5 are comprised of:
 - (i) upskilling programmes that intend to improve, expand and update VET competences. A completed IVET programme in a relevant field and level of study is required;
 - (ii) training programmes intended to equip individuals with knowledge and skills for professions (or part of a profession) that are not offered within IVET.
 - (c) study programmes for further training at EQF levels 6, 7 and 8.

1.2. National context

According to the Cedefop NQF country report for Slovenia for 2020 Slovenia performs well in relation to most other European benchmarks for education and training. It invests more in education and training than the EU average (5.4% compared to the EU average of 4.6% in 2018, though spending is still lower than before the previous economic crisis).

The country has exceeded EU 2020 targets for tertiary education attainment: at 44.9% in 2019 it is above the national and European target of 40% and the 2019 EU average of 40.3%. Enrolment, though, is in long-term decline due to smaller cohorts. The share of students in STEM is also high (29.3%).

Early leaving from education is among the lowest, at 4.6% in 2019 compared to the EU average of 10.2%. Student achievements in reading, mathematics and science are above the EU average in all three competences and in math and science among the best in Europe. The share of low-achieving students is below the EU average (in science at 14.6%, maths at 16.4% and reading at 17.9%).

Employment rates of recent graduates ISCED 3-8, at 86.0% in 2019, which is above the EU average of 80.9% in 2019, though there was a fall from 84.5% in 2018 to 79.1% in 2019 for VET graduates.

The proportion of students in vocational education and training (VET) is among the highest in Europe, increasing from 65.9% in 2013 to 70.9% in 2018. The (re)introduction of apprenticeship schemes, piloted from the 2017/18 school year, has continued and expanded to new sectors and occupations. The aging population is accentuating the need to increase participation in adult learning, particularly for the low-skilled workforce. A total of 11.2% of Slovenian adults participated in adult education in 2019, slightly above the EU average of 10.8%. However, the engagement in lifelong learning is still low among the low-skilled (Cedefop, 2020).

CHAPTER 2. Analysis of the take up, characteristics and functions of microcredentials

This chapter represents analysis of the take up, characteristics and functions of microcredentials as seen from the following stakeholders' point of views: national authorities, employees organisations, employers organisations and public and private VET providers.

The data for this chapter was collected through desk research, interviews and the survey amongst all pre-defined groups of stakeholders. At this point it is important to mention the limitations for interpreting the survey analysis, due to low response rate.

The various groups of stakeholders in the area of vocational education and training and adult education have different levels of familiarity with the term microcredential. For national authorities, especially those who are responsible for VET, the term microcredential is a novelty. Some indications of awareness of the term microcredentials were shown in the short-cycle (EQF level 5) education. However, its implications are still in initial phase. In higher education, the term microcredential is more commonly used. The term and the concept of microcredential among VET providers is already known as they have been introduced to it in various circumstances. Lower familiarity with the term microcredential is shown amongst employees and employer organisations.

According to the national authorities' point of view, there is no commonly agreed and official definition of microcredentials on a national level yet. Both national authorities, as well as VET providers listed different short formal and non-formal educational and training programmes, that have similar characteristics and function to microcredentials, such as flexibility, quick responsiveness to the labour market needs and their role for upskilling, re-skilling, updating knowledge. Nevertheless, they do not have a common terminology on a national level. Other groups of stakeholders did not comment on the definition of microcredentials.

Microcredentials are currently not included in strategic documents on a national level, as Slovenia has not yet defined the terminology and recognised microcredentials as a special system/segment, with the exception of some other types of formal and informal qualifications that have similar characteristics and function, but which are named differently. However, policy discussions on microcredentials are already alive and are mainly taking place in narrow professional circles.

Majority of stakeholders emphasised that there is already a wide range of short educational and training programmes that comply with the characteristics of microcredentials. Some of them are included in national qualifications system, and some are not, but none of them are described as microcredentials.

The main actors providing learning and training activities that comply with the characteristics of microcredentials are different entities who were recognised as providers of formal/informal training or education and reach prescribed quality requirements. In some cases, also employers or their associations organise such learning activities.

The definition of main and most important characteristics of microcredentials depends on commonly agreed definition of microcredentials, which is still not in place on a national level. Therefore, the respondents of the interview programme listed only potential characteristics, with emphasis on flexibility, responsiveness to the labour market needs, short duration, adaptability, and their role in encouraging and enabling lifelong learning, addressing the need for re-skilling and up-skilling for the labour market needs.

Microcredentials could play an important role in the labour market oriented education and training that are connected with the national strategic development priorities defined in the national strategic document Smart Specialisation Strategy (S4).

2.1. How familiar are the stakeholders with the term of microcredential?

The term microcredential in the area of vocational education and training and adult education has different levels of familiarity amongst various groups of stakeholders.

The term microcredential is translated into the Slovene language as “mikrokvakacije”, according to the translation of the Brussels translation officials, noticed in official translation of European Skills Agenda for Sustainable competitiveness, social fairness and resilience to Slovenian language.

For national authorities, especially those who are responsible for VET, the term microcredential is a novelty. Some indication of awareness of the term microcredential was shown in the short-cycle (EQF level 5) education, however its implications are still in initial phase. In higher education (EQF level 6-8), the term microcredential is more commonly used. The term and the concept of microcredential is already known among the VET providers as they have been introduced to it in various circumstances. Lower familiarity with the term microcredential is shown amongst employees and employers organisations.

2.1.1. National authorities

For the analysis of familiarity of the national authorities with the term of microcredential, the data from the interviews with representatives of two directorates of the Ministry for Education, Science and Sports: Upper Secondary, Short-Cycle Higher Vocational and Adult Education Directorate and Higher Education Directorate as well as one representative of the Ministry for Labour, Family, Social affairs and Equal Opportunities, Directorate for Lifelong Learning, was used. Additionally, the desk research of various documents supported the analysis.

From the Ministry for Education, Science and Sports, Upper Secondary, Short-Cycle Higher Vocational and Adult Education Directorate point of view, the term and the concept of microcredential in VET was introduced by the European Commission. Before that, this term was not known in the area of VET on a national level. A microcredential is thus understood as a new term, especially from the aspiration to introduce, smallest units of qualifications, according to the existing ones. It refers to a very specific and segmented part of a qualification. On the other hand, microcredentials could be recognised as qualifications, that already exist in national qualifications system.

It could be assumed, that microcredentials occur as an answer to the need for a flexible and quick response to the individual segment of the labour market and its current needs. They arise because certain segments require an in-depth, more accurate and quick response to changing technological requirements in the economy.

Considering the opinion of the Higher Education Directorate at the Ministry for Education, Science and Sports the term microcredential in the area of higher education is not a novelty. In the higher education, the term microcredential is used for describing short study and educational programmes, some of which are regulated by national legislation, some of them are non-formal. They present a solution to fill in the gap between formal education, leading to traditional degrees, and the fast-changing knowledge-development and labour market needs. The flexibilisation is the key facilitator that encourages the development and use of microcredentials, especially in the higher education.

The Ministry of Labour, Family, Social Affairs and Equal Opportunities is generally familiar with the term microcredential.

2.1.2. VET providers

The VET providers' familiarity with the term of microcredential was analysed through interview results and survey analysis. The interviews were conducted with

one public VET provider and one private VET provider. Regarding the survey, 3 public VET providers reported about their offer of small and alternative credentials.

According to the interview with the representative of the private VET provider, the term and the concept of microcredential is already known or it has been introduced at various events, for example through cooperation with the European Commission and conversations taking place at the level of the European Commission (as part of a workshops that has already been organised on the topic of microcredentials and also as part of a workshops for a so-called 'Skills passport' for recording qualifications).

2.1.3. Organisations representing employees

The representative of the employee organisation interviewed for this case study stated that the term 'microcredential', from the trade union's perspective, is not yet sufficiently established to be able to say that the term has wide recognition in society. However, it is certain that decade long efforts and discussions are taking place, so that the various informal educational trainings, could also be somehow recorded, evaluated, acknowledged. And now they see this effort for microcredentials as a step forward in reaching a uniform standardisation to which it will be necessary to adapt these trainings, that are already underway and those that will be developed. In this way, these trainings will be evaluated and recognised and later used as certificates for the future employment reasons, for further education or anything else that suits the individual. On the other hand, such standardisation could also make the work for organisations much easier.

The syndicate representative said that a lot of work needs to be done to popularise the term and use of microcredentials. It's really a new term. We need to work on making people aware of what microcredentials are and what their meaning is.

2.1.4. Organisations representing employers

Based on the interview with the representative of the employer organisation, the term 'microcredential' is not known and represents a novelty in the labour market oriented education and training terminology. Meanwhile, the survey results show that 66% of respondents amongst employers are familiar with the term 'microcredential', but none of them offer microcredentials in practice. It could be assumed that the familiarity with the term and the concept of microcredential is detected amongst employer organisations, however only on initial and theoretical level. It is difficult to infer meaningful conclusions from the survey given the low response rate.

2.2. How are microcredentials defined by different stakeholders?

This chapter represents analysis of the definition and understanding of microcredentials from the point of view of following stakeholders': national authorities, employees organisations, employers organisations and public and private VET providers.

The data for this chapter was collected through interviews and survey amongst all pre-defined groups of stakeholders.

According to national authorities' point of view, there is no commonly agreed and official definition of microcredentials on a national level yet. Both national authorities, as well as VET providers listed different short formal and non-formal educational and training programmes, that have similar characteristics and function to microcredentials, such as flexibility, quick responsiveness to the labour market needs and their role for upskilling, re-skilling, updating knowledge. However, they do not have a uniform terminology on a national level. Other groups of stakeholders did not comment on the definition of microcredentials.

2.2.1. National authorities

Interviews with the national authorities revealed the lack of clear common definition and understanding of microcredentials on a national level. Additionally, they point out there are various types of qualifications with characteristics comparable to microcredentials, that already exist in national qualifications system, however they do not have the common terminology and therefore there is no comprehensive system of microcredentials on national level yet.

According to the representative of the national authority, one such type of microcredential refers to supplementary qualifications, introduced in 2016 by SQF Law. They supplement individual's competence at the level attained and in a specific professional field, and are tied to the labour market needs, with emphasis on up-skilling or re-skilling and based on some pre-existing qualification. They are focused only on exact needs of the employers and are not intended to acknowledge transversal and general skills.

Another type of qualification, that also suits some of the characteristics of microcredential, can be found in CVET. CVET short programmes have been developed since 2017. They are prepared in close cooperation with the employers to up-skill employees to perform specific tasks, up-grade, modernise some concrete professional skills and etc. They focus entirely on the vocational and professional competences and 50% of its curricula is conducted at the workplace and the other half in school. They last for a maximum of 6 months and are prepared

on the same educational (ISCED or EQF) level as initial programmes at upper-secondary and tertiary level (higher vocational programmes).

Moreover, microcredentials can be used in the process of recognition of previously acquired knowledge as part of flexible learning pathways or as a pathway for qualification or retraining at the same educational level. This refers to the system of national vocational qualifications, which enables citizens to get their vocational competencies verified. However, they cannot gain level of education through this option.

Finally, adults can enrol in non-formal courses provided by private entities or public schools, or Employment Service of Slovenia, to gain numerous VET or general competencies. According to the Higher Education Directorate's (Ministry for Education, Science and Sports) point of view, microcredentials are partially included in the national qualifications system through study programmes for further training on the EQF levels 6-8. Study programmes for further training are a form of lifelong learning, and are intended primarily for upskilling, supplementing, deepening and updating knowledge. In addition, higher education institutions may also organise various forms of non-formal learning, such as courses, summer schools, training programmes and the like, provided that this does not affect the implementation of study programmes for obtaining education.

In the survey of national authorities 40% answered that there is another term used in the national/regional context that fits the definition of microcredential. They listed the following terms: Dodatne kvalifikacije (supplementary qualifications), potrdilo o izpitu (exam certificate); potrdilo o opravljenih obveznostih (certificate of completed obligations); potrdilo o strokovnem izpitu (certificate of professional examination).

According to the survey results, the national authorities are also unified in their answer that there is no official definition for microcredentials in the national / regional context.

2.2.2. VET providers

According to the interview analysis, the VET providers follow the set guidelines at the national system level and they do not have a specific definition for microcredentials.

Within the non-formal education, VET providers work on several programmes in the field of professional (non-formal) training, for example, in the field of soft skills. Occasionally, in the field of individual counselling, they advise on how to get supplementary qualifications, which they already see as part of microcredentials. They are also familiar with further training and education programmes after higher and professional education, which is not of particular interest to employers, with

whom they work quite closely. Although they are monitoring and implementing all this, there is still no real connection between education and labour market.

As told by the interview respondent, they also carry out non-formal forms of education and training in some segments, especially where people show a lack of knowledge through portfolios. Of course, for this they monitor statistics through data that they have at their disposal. The Mentoring training programme (Program Usposabljanje mentorjev), which they run and is formalised, in their opinion could be classified as microcredential. However, they also have data that is not systematised and structured, more based on perceptions of what is happening with employers on this topic.

2.3. **Are microcredentials or similar credentials referred to in policy discussions and strategic documents? What are the main activities related to microcredentials that are taking place in different contexts? What are the recent developments related to microcredentials?**

This chapter represents analysis of microcredentials being referred to in policy discussions and strategic documents. The data for this chapter was collected through interviews, with greater emphasis on national authorities, as well as desk research of relevant documents and legislation.

Microcredentials are currently not included in strategic documents on a national level, as Slovenia has not yet defined the terminology and recognised microcredentials as a special system/segment, with the exception of some other types of formal and informal qualifications that have similar characteristics and function, but are named differently.

However, policy discussions on microcredentials are already alive and diverse, and they are mainly taking place in narrow professional circles. It is somehow agreed that these discussions should be done wisely, taking into account a wider national context, considering various groups of stakeholders and with strategic view into the future challenges of education and training.

2.3.1. National authorities

National authorities report that policy discussions on microcredentials are present at the moment. Within the Ministry for Education, Science and Sports an informal consultation group covering VET and higher education was established for discussion on microcredentials.

According to the interview analysis, national authorities outlined, the implementation of the concept and term of microcredential seems inevitable, especially in order to equip citizens with appropriate and comparable certificates to help them become more competitive in the labour market, as emphasised also in the incentives within European approach to microcredentials. However, this step should be done wisely, taking into account a wider national context and with the strategic view into the future challenges of education and training.

The national context should be considered, especially as it relates to the strong role of formal education in Slovenia as well as high rate of well-educated population, according to the EU average (Cedefop, 2020).

Slovenia doesn't have a strategy on microcredentials in place. However Slovenia's position paper on the European approach to microcredentials for lifelong learning and employability from the Ministry for Education, Science and Sports is following:

General views:

(a) microcredentials encourage flexibility and responsiveness;

A growing number of individuals are in need of new or additional knowledge, skills and competences due to the gap between their acquired formal education and the fast-changing nature of knowledge and labour market needs. The answer to this gap is the provision of short-term training courses through which participants gain new or update existing knowledge, skills and competences and obtain a microcredential. Microcredentials were created in response to the need for more flexible, targeted and personalised learning and training formats to ensure the continuity of lifelong learning. Slovenia considers microcredentials to be adaptable and responsive learning pathways that can help people acquire, update and evaluate their knowledge, skills and competences and thereby increase their employability.

(b) microcredentials ensure accessibility and inclusiveness;

Microcredentials provide opportunities for continuous learning and can effectively bridge gaps in knowledge and skills, increase the responsiveness of education systems and adaptation to labour market needs, stimulate innovation in the (formal and non-formal) education being provided and reach new learner profiles, including those from underprivileged backgrounds, in order to speed up their personal, social and professional development. Microcredentials can contribute to inclusive education systems and lifelong education to facilitate transition to the labour market and increase employment flexibility, allowing individuals to gain, update and upgrade their acquired knowledge, skills and

competences in various fields and for various purposes (employability, personal development, active aging in the digital era, active citizenship, etc.).

(c) a coordinated approach;

Ministry for Education, Science and Sports advocate for a coordinated approach to microcredentials that will improve the quality, transparency and use of microcredentials, with the Member States incorporating microcredentials in their own education systems, based on national specifics. The member states will continue to be responsible for the teaching content, the organisation of education, training systems and their cultural and language diversity. All stakeholders should recognise microcredentials as a trust-worthy part of education and qualification systems (students, employers, educational institutions, trade unions, etc.).

(d) quality assurance;

The value of existing certificates of short-term training on the market is not quite clear or transparent, and not all certificates are trustworthy. We advocate for microcredentials to be regulated by clear quality standards and subject to standards applicable to education. To ensure quality, microcredentials should be clearly defined (in terms of their scope and format) on various levels of education, and the Member States should have the prerogative to incorporate them in their respective national education and qualification systems, quality control mechanisms and tools, institutions responsible for verification and validation and the procedures of issuing, storing and keeping records of microcredentials. Only transparency, clarity and observance of the national context will ensure everyone's trust.

(e) placement in national qualification systems;

Microcredentials enable a targeted acquisition of knowledge, skills and competences adapted to our fast-changing society and labour market. They do not replace traditional qualifications or formal education but rather enrich them. We recognise the need for the incorporation of microcredentials into existing qualification structures to be agreed on the national level of individual Member States, together with all relevant stakeholders (public or private education and training providers, social partners, chambers of commerce, employers, quality assurance institutions and decision-makers). Ministry for Education, Science and Sports advocates for microcredentials to be defined at all levels of education.

(f) promotion of mobility and recognition;

Microcredentials will help expand learning opportunities and strengthen lifelong learning, thereby promoting the mobility of a diverse group of learners. EU

measures should be aimed at ensuring the transparency and applicability of microcredentials. They should also encourage cross-border cooperation and the accessibility of education and training. Recognition and evaluation should be carried out by means of existing national procedures and mechanisms: digital integration should be encouraged (e.g. through artificial intelligence, the integration of databases and verification of the truthfulness, quality and applicability of individual microcredentials). Micro-qualifications themselves should not provide a full qualification but contribute to the acquisition of a full qualification. They can be used in procedures for recognising previously acquired knowledge as part of flexible learning pathways or as pathways to additional qualification or requalification on the same level of education.

(g) technical implementation of microcredentials.

The EU should use the existing Europass platform and its infrastructure of digital certificates to support the transferability, recognisability, transparency and recognition of microcredentials. The Europass should ensure a trustworthy and unified digital integration, translation and verification of digital certificates, taking into account their quality and the corresponding level of education or qualification.

As the Ministry of Labour, Family, Social Affairs and Equal Opportunities point out that microcredentials are not mentioned in strategic documents, as Slovenia has not yet recognised microcredentials as a special system/segment. Discussions are already taking place, but they are taking place in narrow (professional) circles, within the bodies that deal with it. The discussions are therefore not broad, citing the fact that other actors may not yet have recognised the value of microcredentials.

2.4. What is the extent to which microcredentials are used in the labour market related education, training and learning?

In the context of microcredentials, as defined by the European Commission, there is no clear data about the extent to which microcredentials are used in the labour market related education, training and learning on a national level.

The stakeholders report about the use of different types of short training and education courses or programmes that comply with characteristics of microcredentials, some of them are accredited and included in NQF (for example supplementary qualifications, CVET short programmes, study programmes for further training), some of them are not (for example training programmes of competences centres, based on Slovenian Smart Specialisation Strategy, training

programmes provided by Adult Learning Centres, training programmes provided by Employment Service of Slovenia, unaccredited CVET programmes), but they are not explicitly defined as microcredentials.

Majority of stakeholders emphasised that there already exists a wide range of short educational and training programmes, some of them are formalised, some of them are not, but none of them are described as microcredentials.

2.4.1. National authorities

According to the national authorities' point of view, microcredentials (in terms of their characteristics, not the term itself) can be referred to various types of qualifications, that already exist in national qualifications system and are used in the labour market. However, they do not have a uniform terminology.

One of the types of credentials, that is commonly used in the labour market could be supplementary qualifications, that supplement an individual's competence at the level attained and in a specific professional field, and is tied to the labour market needs, with emphasis on up-skilling or re-skilling and based on some pre-existing qualification. They are focused only on the exact needs of the employers and are not intended to acknowledge transversal and general skills.

Another type of qualification that also suits some of the characteristics of microcredentials can be found in CVET. CVET short programmes have been developed since 2017. They are prepared in close cooperation with the employers to up-skill employees to perform specific tasks, up-grade, modernise some concrete professional skills etc. They focus entirely on the vocational and professional competences and 50% of its curricula is conducted at the workplace and the other half in school. They last for a maximum of 6 months and are prepared on the same educational (ISCED or EQF) level as initial programmes at upper-secondary and tertiary level (higher vocational programmes).

In the higher education, study programmes for further training on the EQF levels 6-8 are a form of lifelong learning, and are intended primarily for upskilling, supplementing, deepening and updating knowledge. In addition, higher education institutions may also organise various forms of non-formal learning, such as courses, summer schools, training programmes and the like, provided that this does not affect the implementation of study programmes for obtaining education.

Moreover, microcredentials can be used in the process of recognising previously acquired knowledge as part of flexible learning pathways or as a pathway for qualification or retraining at the same educational level. This refers to the system of national vocational qualifications, that enable citizens to get their vocational competencies verified, but cannot gain levels of education through this option.

Finally, adults can enrol in non-formal courses on educational service market provided by private entities or public schools, to gain numerous VET or general competencies.

2.4.2. Organisations representing employers

From the employers organisations' point of view, the extent of the use of shorter training programmes in the labour market related education, training and learning is wide, considering the characteristics of microcredentials, not the term itself. The scope of such education and training includes supplementary qualifications, education and training programmes within companies, training programmes provided by the Employment Service of Slovenia, training programmes for adult learning, provided by Adult Education Centres. On the basis of the interview with the representative of an employer organisation it could be assumed, that there are a variety of education and training options in the labour market. However, none of them are defined as a microcredential.

2.4.3. Organisations representing employees

According to the survey results, employee organisations stated that they use microcredentials to upskill and improve knowledge, skills and competences relevant to the job; to comply with the industry standards; to comply with health and safety standards or to reskill and gain new knowledge, skills and competences.

2.5. Who are the main actors providing learning activities leading to microcredentials and issuing microcredentials?

The main actors providing learning and training activities that comply with the characteristics of microcredentials are different entities who were recognised as providers of formal/informal training or education and reach prescribed quality requirements. In some cases, also employers or their associations organise learning and training programmes that comply with the characteristics of microcredentials.

2.5.1. National authorities

Regarding the actors providing learning activities leading to microcredentials and issuing microcredentials, the national authorities emphasised that distinction between public and private entities is not relevant factor in the implementation of the concept of microcredentials.

The key question is their quality, that is to say, whether they are included in the register of providers, whether they fulfil the quality assurance conditions, material and human resources, or whether they give authentic certificates. The fact is how the contractor will be entrusted. Whoever is going to issue microcredentials, should have some level of trust in society.

Main actors providing learning activities leading to microcredentials and issuing microcredentials are basically everyone: from the formal system of education along the entire vertical, the field of training as defined by the legislation in the field of adult education, etc., if we consider it from the point of view of the public list, all verified providers in different systems, including supplementary qualifications or NVQ, i.e. all those who are recognised as providers of formal/informal training or education.

2.5.2. Organisations representing employers

From the employer organisations' point of view, the companies collaborate on the topic of non-formal training with providers that understand their needs, processes and are non-bureaucratic and quickly responsive to their requirements.

2.6. Who are the main users of microcredentials?

The group of main users of microcredentials is very wide and depends on the commonly agreed definition of microcredentials, which is still not in place on a national level. Therefore, the respondents in interview listed only potential main users of short education and training programmes with characteristics of microcredentials: individuals, employers, VET providers, each one with specific rationale for the use of microcredentials.

2.6.1. National authorities

National authorities distinguish potential main users, as follows:

- (a) individuals obtaining knowledge and skills in order to up-skill or re-skill for improving their employability and personal growth, with emphasis on obtaining transversal skills in lifelong learning;
- (b) employers that seek for specialised in-depth knowledge of their employees in order to successfully adapt flexibly on changing technological environments and current needs;
- (c) education providers, that have market interest in provision of education and training.

The main users of microcredentials are employers, employees, educators of all kinds of education and at all levels, legal persons, national authorities. Simply, we can say all players in the labour market.

2.6.2. VET providers

From the VET providers' point of view, the main users of short training and education programmes that comply with the characteristics of microcredentials are individuals and companies.

2.6.3. Organisations representing employers and employees

From the organisations representing employers and employees' point of view, noticed in the survey, the main beneficiaries of microcredentials are following groups of employees: managers, professionals, technicians and associate professionals, clerical support workers, services and sales workers, skilled agricultural, forestry and fishery workers, craft and related trade workers, plant and machine operators and assemblers, elementary occupations, and armed forces occupations.

2.7. What are the main and most important characteristics of microcredentials?

The definition of main and most important characteristics of microcredentials depends on commonly agreed definition on microcredentials, which is still not in place on a national level. Therefore, the respondents of the interview programme listed only potential characteristics, with emphasis on flexibility, responsiveness to the labour market needs, short duration, adaptability, encouraging and enabling lifelong learning, addressing the need for re-skilling and up-skilling for the labour market needs.

2.7.1. National authorities

The definition of main and most important characteristics of microcredentials depends on commonly agreed definition on microcredentials, which is still not in place on a national level.

However, national authorities shared their view of what characteristics microcredentials should have. The role of microcredentials in the society is to address the gap between education and training already achieved and the rapid development of knowledge and labour market needs, with shorter training, through which participants can acquire new or update existing skills and competences.

Micro-qualifications are thus a response to the need for more flexible forms of learning and training, focused and adapted to learners, thus ensuring continuity of lifelong learning. Micro-qualifications should be flexible and fast-responsive learning pathways that can serve people to acquire, update and evaluate their skills and competences, thus maintaining or increasing their employability.

Micro-qualifications provide an opportunity for continuous learning and can effectively fill the skills gap, effectively increase the responsiveness of education and adaptation systems to labour market needs, encourage innovation in the supply of (formal and non-formal) education and achieve new types of learners, including those from disadvantaged backgrounds, in order to accelerate their personal, social and professional development.

Micro-qualifications can contribute to inclusive education systems and lifelong education to facilitate the transition to the labour market and greater employment flexibility, as individuals acquire and update and upgrade acquired skills and competences in different fields and for different purposes (employability, personal development, active ageing in the digital age, active citizenship, etc.).

Micro-qualifications should enable targeted acquisition of knowledge, skills and competences adapted to a rapidly changing society and labour market and do not replace traditional qualifications and formal education but enrich them.

Quality and transparency are two additional key characteristics of microcredentials, that encourage the trust in them by various stakeholders. All stakeholders must recognise micro-qualifications as a trusted part of the education and qualification system (students, employers, educational institutions, trade unions, etc.).

The main and most important characteristics of microcredentials are certainly a systematic placement and control over the implementation in terms of learning outcomes, the document itself, which is ultimately issued to the individual and should reflect the actual state of the qualification, i.e., the level, duration and content. It is important that everything is maximally transparent, also important from the point of view of the employer and the qualification in the market itself.

2.7.2. Organisations representing employees

The trade unions' opinion is that microcredentials need to be tailored to ensure that adults in education are not treated the same as adolescents in the age when they have continuing education. Much more emphasis should be given on the practical aspect, to give people a sense of why this knowledge is useful, how they can use it directly in life, at work or anywhere else.

2.7.3. Organisations representing employers

From the employer organisations' point of view, the most important characteristic of microcredentials is flexibility and adaptability to the constantly changing environments and technologies that imply quick responsiveness on educational and training needs in companies.

2.8. Are there any sectors / occupations where microcredentials are prevalent, relevant and important?

From employers' point of view, expressed in the interviews, microcredentials could play an important role in the labour market oriented education and training that are connected with national strategic development priorities defined in the national strategical document Smart Specialisation Strategy (S4). It identifies three priority pillars and nine areas of application with focus areas and technologies including: Digital, Circular, (S)Industry 4.0. Sectors / occupations where microcredentials could be prevalent, relevant and important. They refer to all areas of digitalisation, all areas of technological development and industrialisation, development of new products and services, highly automated production, including Industry 4.0, sales and marketing, logistics. These are areas where new competences are needed at any given moment. The scope is very broad, as comes to digital and green, all profiles are included in all occupational vertical.

Trade unions emphasized some additional sectors where short education and training programmes with characteristics of microcredentials could play an important role. For example, further education and training for teacher or system for informal training of the Scouts Association of Slovenia.

2.8.1. Organisations representing employees

The representatives of the trade unions shared that microcredentials are most important in different industries, such as in metal and electrical industry. These fields require skilled workforce that is in short supply in the job market. Therefore, it is in their interest to train existing employees or potentially new ones in this way, through microcredentials, because no long training or education is needed, but some short training courses are enough to give them the necessary skills and knowledge to continue working. In the metal industry, for example, programmes such as CNC welders and the like can be great examples. There is a whole range of these trainings for individuals, individual areas of work, work processes that they have developed.

The trade union representative also mentioned some cases of good practices in the field of education and training for teachers. Moreover, considering the youth sphere, it is important to mention the system of informal training and education that the Scout Association of Slovenia has established.

2.8.2. Organisations representing employers

From the employer organisations' point of view, the key sectors, where microcredentials play an important role in the labour market oriented education and training are connected with national strategic development priorities and areas or niches where Slovenia has a critical mass of knowledge, capacities and competences and where it has innovation potential for positioning in the global markets. They are defined in the national strategic document Smart Specialisation strategy (S4).

To sum up, sectors/occupations where microcredentials are prevalent, relevant and important include to all areas dealing with digitalisation, all areas of technological development and industrialisation, development of new products and services, highly automated production, including Industry 4.0, sales and marketing, logistics. These are areas where new competences are needed at any moment. The scope is very broad, as comes to digital and green, all profiles are included in all occupational vertical.

2.8.3. VET providers

Among sectors/occupations where microcredentials are prevalent, relevant and important, VET providers mentioned field of industry, information and communication technology and services. As it is very diverse, it covers different areas (back-office, front-office), where individuals are susceptible to different learning channels (independent learning suits many individuals).

2.8.4. Sectoral analysis

2.8.4.1. Methodology

For the sectoral analysis the methodology comprises of desk research for preparing background information on sectors, study of relevant professional materials, webpages and databases and conducting interviews with the representatives of the ICT sector. Sectoral analysis focused on the analysis of education and training programmes outside the formal education system in the ICT sector, with emphasis on the labour market needs. For the interview, the researcher has used the adapted questionnaire for employers. The results of the interview were included in the writing of each sub-chapter.

2.8.4.2. *Background information on the ICT sector and its position in the national context*

The ICT sector is, according to national strategic development priorities and areas, where Slovenia has a critical mass of knowledge, capacities and competences and where it has innovation potential for positioning in the global markets. As defined in national strategical document Smart Specialisation Strategy (S4), the ICT sector is considered as one of the key sectors in Slovenia.

Smart Specialisation Strategy (S4) is a strategy to strengthen the competitiveness of the economy by strengthening its innovation capacity, diversifying existing industry and service activities and growing new and fast-growing industries or businesses.

Smart Specialisation Strategy (S4) identifies three priority pillars and nine areas of application with focus areas and technologies including:

- (a) digital;
 - (i) smart cities and communities;
 - (ii) smart buildings and a wood-chained home;
- (b) circular;
 - (i) networks for the transition to a circular economy;
 - (ii) sustainable food;
 - (iii) sustainable tourism;
- (c) industry 4.0;
 - (i) factories of the future;
 - (ii) health-medicine;
 - (iii) mobility;
 - (iv) materials as finished products.

The areas of application with focus areas and technologies are based on cooperation between the state and the Nine Strategic Development and Innovation Partnerships (SRIP). SRIPs are comprised of 783 members, of which 81% (i.e., 633) are enterprises, of which 60% (i.e., 380) are micro and small enterprises, 18 % (i.e., 114) are medium-sized enterprises and 22 % (i.e., 139) large enterprises. Their purpose is to define areas of common development or niches in their action plans.

SRIPs carry out their activities on the basis of action plans (business and development strategies) that also include roadmap of action in the field of human resources development, including predicting competence needs, identification of training needs and upgrading of the education system (by level and type of education), which is implemented through competence centres.

2.8.4.3. *The extent to which microcredentials are being used in the ICT sector*

Various group of stakeholders in the ICT sector report on the use of different types of short training and education courses or programmes outside the formal education in the area of ICT that comply with the characteristics of microcredentials. They are awarded by ICT companies and different private providers. However, they are not explicitly defined as microcredentials. According to the interview findings, the interviewee is familiar with the term microcredential and does not consider microcredential as a novelty, since short learning programmes have existed in the ICT sector for a long time.

Below are several examples of the use of short training programmes in the ICT sector.

Competence centre on ICT

Competence centres for human resource development aim to revitalise Slovenian industries, businesses and individuals, by offering financial support to different business branches to strengthen employee competence development (Cedefop and ReferNet, 2020a). The companies are in the same economic sector or in 10 fields, identified in the 2017 Smart Specialisation Strategy, connected to a competence centre (24). Employees are trained according to the needs of the company. With the help of experts, a competence model is prepared, deficit areas are detected and a training plan for employees is prepared (Cedefop, 2021).

The KOC ICT project partnership operates in the field of horizontal priority area of information and communication technologies (ICT). Leading ICT companies developing new technologies with widespread use are liaised into the partnership. The main activity is the partner's computer programming, consulting and other related activities. The training should comprehensively cover all 6 areas of the Horizontal ICT priority area: Digital Transformation, Internet of Things (IoT), Internet Services (IoS), Cybersecurity, High Performance Computing and Big Data, and Artificial Intelligence (HPC&BigData) and Time-Location Information Exploitation Technologies (Gis-T). The choice of key competences is consistent with the European e-Competence Framework (3.0) model and the koc-PMiS and SRIP ICT horizontal network models. The partnership, which includes 26 micro, small and medium-sized enterprises, four large enterprises, has committed to carry out 1,915 training activities during the project.

Training programmes provided by the Employment Service of Slovenia

Active employment programmes play an increasingly prominent role in the development of the labour market, with substantial benefits not only for the general population but also for the business sector. These programmes help unemployed persons enter the labour market, contributing to their social and labour inclusion.

Active employment programme includes also non formal education and training programmes in the ICT area for unemployed on following topics: general use of computer, planning and administration of computer databases and networks, development and analysis of software equipment and applications, programming, webpage construction and management, digital literacy, managing social networks.

CVET programmes for employees (Project Munera 3)

In the period from 2018 to 2022, 86 schools across Slovenia will implement CVET programmes for employees, as additional training, up-skilling or re-skilling, in order to keep up with labour market needs and individual workplaces. Project offers employees a number of opportunities to integrate into CVET programmes, with the aim of improving their competences due to labour market needs, increased employability and mobility between areas of work and personal development and functioning in modern society. The programmes are implemented in the professional fields of engineering, biotechnics and services in all twelve statistical regions of the Republic of Slovenia. At least 17 640 employees will be able to be involved in the project.

Meanwhile, 53 out of 136 training programmes are in the field of Technic. Within this, many of them refers to ICT and its implementation in companies.

2.8.4.4. The main reasons and needs for the use of microcredentials in the ICT sector / and how microcredentials respond to these needs

Considering the fact that there is no commonly agreed definition of microcredentials on a national level yet, interview respondents in the ICT sector could not provide direct answer for this topic. However, considering the short education and training programmes that comply with the characteristics of microcredentials, the needs and rationale for them refers to the need for up-skilling and re-skilling of labour force in order to address the technological and digital skills mismatches and shortages within the companies in the ICT sector, as a response to fast technological changes and development in the sector. According to the interview analysis, in the ICT sector there is a shortage of highly skilled workers and the up-skilling and re-skilling through short educational experience is crucial for fast changing and highly technological needs of the labour market. This phenomenon is extremely outstanding especially in the ICT sector because it needs deeply specialised and highly skilled workforce due to its highly technological nature.

Moreover, the rationale for the use of microcredentials in the ICT sector is much broader and refers to empowering the broader population with digital skills

for learning, work and life as a response to the green and digital transitions, additionally encouraged with the need to respond to Covid-19 pandemic.

The interviewee from the ICT sector described the main characteristics of short learning experiences that could respond to the above-mentioned needs in the ICT sector:

- (a) ability to meet specific skills needs; of companies and organisations;
- (b) agility, flexibility and adaptability to the learner and employer circumstances;
- (c) quick responsiveness to the labour market and broader societal needs;
- (d) short duration and lower costs.

2.8.4.5. *The main challenges in relation to microcredentials in the specific sector / occupation*

The main challenges in relation to microcredentials in the ICT sector are connected with the lack of common definition for microcredentials, lack of transparency and systematic approach to the concept and quality standards of microcredentials.

Moreover, establishing the trust amongst stakeholders involved in preparation, provision and recognition (employees, employers) of such credentials and their portability are one of the most important challenges for the future development of microcredentials.

There are two segments of short learning experiences in the ICT sector, intended for different target groups of learners. The first one is the segment of education and training addressing the need of highly skilled ICT professionals in ICT companies. In this case (large and international) ICT companies have established systems that produce high quality knowledge and certifies it on the international level. The trust and portability of such credentials, from the interviewees point of view, is not in question.

The second segment refers to shorter education and training activities targeted at broader public and the need to empower general population with digital skills. The second segment is less standardised, less organised and much more fragmented in terms of educational offer. Therefore, from the ICT sector's point of view, the need for establishing minimum standards of quality and thus enhancing the trust in such learning opportunities on a national level is needed.

Generally speaking, for the ICT sector the need for a systematic and standardised approach of microcredentials and its transparency is one of the crucial issues that should be addressed in the future.

2.8.4.6. *The main providers of microcredentials in the ICT sector and their motivations to offer microcredentials*

The main providers of learning and training activities that comply with characteristics of microcredentials in the ICT sector are different entities, some of who were recognised as providers of formal/informal training or education and reach prescribed quality requirements. Some of them are only market oriented, for example:

- (a) competence centres;
- (b) employment service of Slovenia;
- (c) companies;
- (d) international companies;
- (e) private VET providers;
- (f) public VET providers;
- (g) adult learning centres.

The motivations to offer learning and training activities that comply with characteristics of microcredentials differ according to the type of provider.

Employers and (international) companies offer education and training programmes that comply with the characteristics of microcredentials in order to address the need for re-skilling & up-skilling the labour force according to their organisational strategy, goals and technological development of the professional field.

Private and public VET providers aim to offer education and training activities that respond to the needs of the labour market, and are also flexible and adaptive from the learners' point of view.

Education and training activities organised by the Employment Service of Slovenia aim to improve the employability and career development of unemployed or other vulnerable social groups.

Adult Learning Centres promote learning and training activities that comply with the characteristics of microcredentials for the purpose of improving employability and personal development of adults.

2.8.4.7. *The main users of microcredentials in the ICT sector and their motivations to seek these microcredentials*

The interviewee from the ICT sector listed various users of short learning and training courses that comply with the characteristics of microcredentials in the ICT sector:

- (a) students seek for flexible and fast-responsive learning pathways that can serve them to acquire, update their skills and competences or supplement prior acquired knowledge, thus maintaining or increasing their employability and personal development;

- (b) employees participate in learning activities leading to microcredentials in ICT in order to re-skill or up-skill according to the employers needs and thus improve their position in the company and contribute to their career development;
- (c) with improving ICT skills unemployed people maintain and increase their employability and personal development;
- (d) adult learners improve their digital skills and competences for life.

2.8.4.8. *Examples of the provision of learning activities leading to microcredentials and issuing of microcredentials in the ICT sector*

In this part, an example of a learning activity that complies with the characteristics of microcredentials in the ICT sector is presented ⁽⁶⁾.

Webpage design course

Within the programme, the participant acquires knowledge on how to create a dynamic webpage using WordPress and learns how to prepare and publish an online store.

Target groups include business owners, persons responsible for the company's online content, people who educate others on the preparation of online content, persons employed in the media, designers, journalists, website maintainers, technologists, marketing specialists, salesmen, webpage editors, specialists for digital marketing.

Content of the course:

- (a) using a web page-making system;
- (b) dynamic web pages (WordPress);
- (c) web page design trends;
- (d) publish a website;
- (e) preparation and use of plug-ins;
- (f) install, use, and customize a design template;
- (g) set up an online store.

Competences to be gained after the completion of the course:

- (a) candidate learns about the basic functioning of the software tool;
- (b) candidate creates an online presentation with a special tool;
- (c) candidate learns about the basics and trends in website design and portals;
- (d) candidate prepares a site tailored to the company's needs and customer-friendly;
- (e) candidate learns about ways of preparing materials for online stores.

⁽⁶⁾ Webpage design course, <http://www.munera3.si/seminar/izdelava-spletnih-strani/>.

Duration of the course: 50 hours

Status: Not nationally accredited, supported by the ESF project Munera 3

Provider: Secondary school for design Maribor

CHAPTER 3. Analysis of microcredentials and evolving qualifications systems

This chapter represents analysis of microcredentials and evolving qualifications systems as seen from the following stakeholders point of view: national authorities, employees organisations, employers organisations and public and private VET providers. The data for this chapter was collected through interviews with all pre-defined groups of stakeholders.

Due to the fact, there is no commonly agreed definition of microcredentials on a national level yet, it was not possible to provide direct answer to this topic. Considering already existing types of qualifications that are close to the characteristics and functions of microcredentials, it could be said that in some way microcredentials are indirectly included in the national qualifications system. Regarding the linking of microcredentials to the credit system, in the area of vocational education and training and adult education, microcredentials are not linked to the credit systems. There is no data on the possibility of accumulating and combining microcredentials with other qualifications.

3.1. How are microcredentials linked to and/or integrated into qualifications system? How do they operate outside national qualifications system?

Considering already existing types of qualifications that have similar characteristics and functions of microcredentials, it could be said, that in some way microcredentials are indirectly included in the qualifications systems, through different ways and approaches. For example, through supplementary qualifications, CVET short programmes, process of recognition for NVQ, study programmes for further training on the EQF levels 6-8.

3.1.1. National authorities

At the beginning of the discussion on this topic national authorities mentioned that there are various types of qualifications with characteristics comparable to microcredentials, that already exist in the national qualifications system. One of such types of microcredentials from the national authorities point of view refers to supplementary qualifications, introduced in 2016 by SQF Law. They supplement an individual's competence at the level attained and in a specific professional field, and are tied to the labour market needs, with emphasis on up-skilling or re-skilling and based on some pre-existing qualification. They are focused only on exact

needs of the employers and are not intended to acknowledge transversal and general skills.

Another type of qualification that also suits some of the characteristics of microcredentials can be found in CVET. CVET short programmes have been developed since 2017. They are prepared in close cooperation with the employers to up-skill employees to perform specific tasks, up-grade, modernise some concrete professional skills and etc. They focus entirely on the vocational and professional competences and 50% of its curricula is conducted at a workplace and the other half in a school. They last for a maximum of 6 months and are prepared on the same educational (ISCED or EQF) level as the initial programmes at upper-secondary and tertiary levels (higher vocational programmes).

Moreover, microcredentials can be used in the process of recognising previously acquired knowledge as part of flexible learning pathways or as a pathway for qualification or retraining at the same educational level. This refers to the system of national vocational qualifications, that enable citizens to get their vocational competencies verified. But they cannot gain levels of education through this option.

According to the Higher Education Directorate's (Ministry for Education, Science and Sports) point of view, microcredentials are partially included in the national qualifications system through study programmes for further training on the EQF levels 6-8. Study programmes for further training are a form of lifelong learning, and are intended primarily for upskilling, supplementing, deepening and updating knowledge.

National authorities already recognised the need to agree on the role and relations of microcredentials to existing qualification frameworks at a national level, together with all relevant stakeholders (public or private education and training providers, social partners, chambers of commerce, employers, quality assurance institutions and decision-making bodies).

3.1.2. VET providers

Similar to national authorities, VET providers recognised some qualifications included in the national qualifications system that have similar characteristics as microcredentials (see section 3.1.1).

There are also qualifications that operate in the labour market outside the national qualifications system. They believe that Slovenia already has a lot of education and training arrangements in place in this area, but the fact that these systems are not transparent is highlighted as a problem.

Their education and training offer (additional offer of shorter programmes, shorter study units) in this field is related to generic competencies (a lot of demand

in our country is still for soft skills, communication skills, elements of leadership skills), which are not integrated into the national system, but are more 'tailor made', that is, they are tailored to individual clients, therefore solving very specific cases.

3.2. How are microcredentials linked to credit systems?

Currently, in the area of vocational education and training and adult education, microcredentials are not linked to the credit systems.

3.3. Can microcredentials be accumulated and combined with other qualifications?

Considering the fact that there is no commonly agreed definition of microcredentials on a national level yet, respondents could not provide an exact answer to this topic for VET. The discussions on this topic on the national level are established.

3.3.1. National authorities

Considering the fact, there is no commonly agreed definition of microcredentials on a national level yet, national authorities could not provide answer to this topic for VET.

However, national authorities already discussed the relations of microcredentials to other qualifications and expressed non-binding opinion, that microcredentials can contribute to inclusive education systems and lifelong education, to facilitate the transition to the labour market and greater employment flexibility, as individuals acquire, update and upgrade acquired skills and competences in different fields and for different purposes (employability, personal development, active ageing in the digital age, active citizenship, etc.).

However, microcredentials should not in themselves allow full qualification, but contribute to obtaining a full qualification. There is no interest for automatic recognition of microcredentials on a national level.

Microcredentials can also be used in the procedures for the recognition of previously acquired knowledge as part of flexible learning pathways or as a pathway for qualification or retraining at the same educational level.

CHAPTER 4. Analysis of microcredentials and the added value for end users

This chapter represents analysis of the added value of learning activities that comply with the characteristics of microcredentials for end users as seen from the following stakeholders point of view: national authorities, employees organisations, employers organisations and public and private VET providers.

The analysis of the interviews and survey amongst all groups of stakeholders emphasised the need for microcredentials. However, the rationale for the use of microcredentials varies upon the group of stakeholders and their specific needs. The data of the survey analysis was used only to support interview analysis given the low response rate.

Considering already existing types of qualifications that have similar characteristics and functions as microcredentials, the interviewees outlined that the main benefits and added value for end users might differ according to specific user group.

Regarding the question of trust in microcredentials, the value of the shorter training and education programs on the market is not entirely clear and transparent and not all of them are trustworthy. From the interview analysis, the important aspect is detected in the statement, that there is a greater trust in those types of qualifications that are included in the national qualifications systems. In order to ensure quality and trust, it is necessary to clearly agree on the definition of microcredentials. Only transparency, clarity and consideration of the national context will ensure stakeholder's trust in microcredentials.

4.1. Is there a need for microcredentials? Why do different stakeholders need microcredentials?

Considering the fact that there is no commonly agreed definition of microcredentials on a national level yet, interview respondents could not provide direct answer for this topic. However, the education and training experiences that comply with the characteristics of microcredentials, have different rationale, according to the group of stakeholders:

- (a) national authorities emphasised the need to address the gap between formal education already achieved and the rapid development of knowledge and labour market needs.
- (b) employers seek for specialised in-depth knowledge of their employees and outline the need for up-skilling and re-skilling in order to address the skills

mismatches and skills shortages within the companies and adapt flexibly on changing technological, digital, social, environmental changes and development;

- (c) individuals (employees, unemployed, students) seek for flexible and fast-responsive learning pathways that can serve them to acquire, update their skills and competences, according to the labour market and societal needs, thus maintaining or increasing their employability and personal development with re-skilling or up-skilling through lifelong learning;
- (d) VET providers emphasised the need for flexibility and adaptability of training programmes as well as their individualisation, according to the learners needs.

4.1.1. National authorities

According to the national authorities' point of view, there are more and more individuals in need of new or additional knowledge, skills and competences because there is a gap between formal education already achieved and the rapid development of knowledge and labour market needs. The answer to this gap is shorter training, through which participants acquire new or update existing skills and competences and obtain a proof of acquired knowledge (certificate).

Microcredentials are thus a response to the need for more flexible forms of learning and training, focused and adapted to learners, thus ensuring continuity of lifelong learning. They recognise that microcredentials are flexible and fast-responsive learning pathways that can serve people to acquire, update and evaluate their skills and competences, thus maintaining or increasing their employability.

Microcredentials can contribute to inclusive education systems and lifelong education to facilitate the transition to the labour market and greater employment flexibility, as individuals acquire and update and upgrade acquired skills and competences in different fields and for different purposes (employability, personal development, active ageing in the digital age, active citizenship, etc.).

The role of microcredentials in the society is to address the gap between education and training already achieved and the rapid development of knowledge and labour market and societal needs, with shorter training, through which participants acquire new or updated existing skills and competences.

4.1.2. Organisations representing employers

For employers, microcredentials present a way to address the gap between formal education already achieved and the rapid development of knowledge and labour market needs as a consequence of changing technological environment. The answer to this gap is shorter training, through which employees acquire new or update skills and competences for quality and effective execution of working tasks

within their occupation, according to prescribed standards and technological requirements of workplace.

According to the survey data that supports the interview analysis, the main reasons for employers to use microcredentials are: to recognise and record knowledge, skills and competences of employees, to facilitate recruitment, promotion and mobility of employees within the workplace, to improve retention of employees, to improve employee motivation, to address skills mismatches and skills shortages within the company, to respond to the changing needs of the company, to build a culture of continuous professional development of employees, to comply with health and safety standards, to comply with industry standards (e.g. to make use of specific machinery, ICT security).

4.1.3. Organisations representing employees

According to the survey results, employee organisations recognised flexibility in terms of the timeframe to complete a learning activity leading to a microcredential and in terms of the content and the lack of alternative options to gain the required knowledge, skills and competences as influence to a wider uptake of microcredentials.

Moreover, employee organisations defined two types of advantages that microcredentials have over traditional forms of qualifications. One advantage is that the content of microcredentials is more relevant to the needs of the labour market. The second advantage is that their flexibility is more suited for upskilling and reskilling of employees.

4.1.4. VET providers

VET providers emphasised the need for flexibility and adaptability of education and training programs as well as their individualisation and see short training and education programs that comply with the characteristics of microcredentials as part of solution for this issue.

4.2. What are the main benefits / added value of microcredentials for end users (e.g., learners, education and training providers and employers)? What value do microcredentials bring to the overall qualifications system?

Due to the fact that there is no commonly agreed definition of microcredentials on a national level yet, it was not possible to exactly define the added value of microcredentials for end-users. Considering already existing types of qualifications that have similar characteristics and functions as microcredentials, the interviewees reported that the added value of such learning activities refers to their flexibility and fast-responsiveness of learning pathways that can serve people to acquire, update their skills and competences according to the labour market and wider societal needs, thus maintaining or increasing their employability and/or personal development. For employers, the added value of such learning activities can be understood in terms of flexibility and quick responsiveness to the constantly changing labour market needs and technological development. In this context the flexibility of the content as well as forms of learning and training, focused and adapted to learners and organisations, thus ensuring continuity of lifelong learning and technological development is one of the key potential added value aspects.

Main benefits and added value for end users differ according to specific user group:

- (a) for individuals (employees, unemployed, students) they offer an opportunity to up-skill or re-skill for improving their employability, personal development, active ageing in the digital age, active citizenship ... etc., with emphasis on obtaining occupational specific and transversal skills through lifelong learning;
- (b) for employers they present a way to empower their employees with specialised in-depth knowledge in order to successfully adapt flexibly on changing technological environments and current needs;
- (c) for education providers they enable the flexibilisation and individualisation of learning paths, promote lifelong learning and widen education offer in the education and training market.

4.2.1. National authorities

National authorities during the interview elaborated that microcredentials potential role in society is to address the gap between education and training already achieved and the rapid development of knowledge and the labour market and societal needs, with shorter training, through which participants acquire new or updated existing skills and competences.

The gap between formal education already achieved and the rapid development of knowledge and the labour market needs is one of the key aspects microcredentials address. The answer to this gap is shorter training, through which participants acquire new or updated existing skills and competences and obtain microcredentials.

National authorities recognised that microcredentials are flexible and fast-responsive learning pathways that can serve people to acquire, update and evaluate their skills and competences, thus maintaining or increasing their employability and/or personal development.

Microcredentials can contribute to inclusive education systems and lifelong education to facilitate the transition to the labour market and greater employment flexibility, as individuals acquire and update and upgrade acquired skills and competences in different fields and for different purposes (employability, personal development, active ageing in the digital age, active citizenship, etc.).

According to the survey findings, 60% of national authorities agreed that microcredentials have advantages over traditional forms of qualifications and other forms of competence recognition. National authorities agree over these four advantages of microcredentials over traditional forms of qualifications and other forms of competence recognition:

- (a) their flexibility is more suited for upskilling and reskilling;
- (b) they facilitate validation and recognition of prior learning;
- (c) they are suitable for lifelong learning purposes;
- (d) they allow for easy identification of certifications in online format.

According to the survey, national authorities did not notice any effect of the COVID-19 pandemic on how they engaged with microcredentials or they simply could not answer this question. But in their opinion, the importance of microcredentials in Slovenia will grow after the COVID-19 pandemic.

4.2.2. Organisations representing employers

For employers, the added value of microcredentials can be understood in terms of flexibility and quick responsiveness to the constantly changing labour market needs. According to the survey findings, the main reasons for employers to use microcredentials are:

- (a) to recognise and record knowledge, skills and competences of employees;
- (b) to facilitate recruitment, promotion and mobility of employees within the workplace;
- (c) to improve retention of employees;
- (d) to improve employee motivation;
- (e) to address skills mismatches and skills shortages within the company;
- (f) to respond to the changing needs of the company;
- (g) to build a culture of continuous professional development of employees;
- (h) to comply with health and safety standards;
- (i) to comply with industry standards (e.g., to make use of specific machinery, ICT security).

4.2.3. VET providers

From VET providers perspective it is believed that microcredentials play an important role in the development of individuals' own career paths, especially through flexible and individualised learning pathways.

4.3. Are microcredentials trusted among different stakeholders? What are the main reasons for trust / distrust in microcredentials? What are the conditions for ensuring the trust in microcredentials?

Due to the fact that there is no commonly agreed definition of microcredentials on a national level yet, it was not possible to provide a direct answer whether microcredentials are trusted among stakeholders and about the main reasons for the trust.

Considering already existing types of qualifications that are close to the characteristics and functions of microcredentials, it could be said, the value of the shorter training and education programmes on the market is not entirely clear and transparent and not all of them are trustworthy. The majority of interviewees believe that there is a greater trust in those types of qualifications that are included in the national qualifications systems.

Considering microcredentials as shorter training programmes for training of employees on intra-company level, the trust for intra-company needs is not in question, as employer is fully engaged in planning, providing and issuing microcredentials for intra-company needs.

In order to ensure quality and trust, it is necessary to clearly agree on the definition for microcredentials. Only transparency, clarity and consideration of the national context will ensure stakeholder's trust in microcredentials.

4.3.1. National authorities

In order to ensure quality of microcredentials, it is necessary from the national authorities point of view, expressed in interviews, to clearly agree the definition of microcredentials (scope and format) at different levels and types of education and training on national level. However, Member States should be autonomous in referencing microcredentials to the national education and qualifications system, and defining quality verification mechanisms and tools, the competent institutions for verification and validation, the procedures for issuing, storing and keeping the register of microcredentials. Only transparency, clarity and consideration of the national context will ensure stakeholder's trust in microcredentials. Moreover, the

level of trust in microcredentials mainly depends on the system that would be set up. In the case of microcredentials, if they are left to the market, the matter would be lost and diluted. If a system is in place, then it is easier to build trust. The conditions necessary to build trust are verification, quality of providers and supervision of providers and the system. Distrust would arise if there were no proper placement in the system and proper oversight. Among the aspects that pose a challenge for the implementation of microcredentials, according to the interview respondents, are their placement in the system, adjustment of providers and legal bases.

4.3.2. Organisations representing employees

The trade union's opinion on the trust level, expressed in the interview is, that the level of trust in short education and training programmes varies. Stakeholders trust in what they know. That is, employers trust those already established microcredentials, that they use themselves for their employees or potential employees. They trust already established microcredentials. Not everything that is on the market is trustworthy.

The trade union representative also thought that some awareness campaign is needed to inform and explain people of what microcredentials are, what they gain from them, or maybe they already have a microcredential and do not even know where they can enforce it. People need to see the added value, to know that microcredentials exist and that they will see where to apply for them or what to gain with them. Additionally, the awareness raising is needed even amongst employers. Employers should be encouraged to look not only at formal education, but also at microcredentials. Employers in the public sector are probably the most rigid, because the payroll system and systematisation are based on formal education. When the microcredentials framework will finally be in place, then it is necessary to adjust the way and possibilities of employment with the acquired microcredentials. When the public sector starts using microcredentials, they would gain validity and would be used more widely in general.

4.3.3. Organisations representing employers

Considering microcredentials as shorter training programmes for training of employees on intra-company level, employers representative in the interview stated that the trust is not in question. As an employer, they are fully engaged in planning, providing and issuing of microcredentials for intra-company needs.

As it comes to the microcredentials provided and issued out of the companies, it is crucial to define and transparently present the outcomes and procedures for obtaining microcredentials and ensure the quality of providers and issuers of microcredentials through defined and implemented quality assurance systems.

Moreover, for the trust in microcredentials it is crucial to have a comprehensive analysis of the labour market needs, as a basis for planning the competences and areas that should be addressed through microcredentials in order to fill the skills gap of the labour market. However, it is important to consider, that employers are not capable of dealing with additional bureaucracy on account for above mentioned quality requirements. The balance between quality requirements and administrative bureaucracy is needed.

4.3.4. VET providers

Among main reasons for trusting in microcredentials and the conditions for ensuring the trust in microcredentials VET providers in the interview mentioned transparency of the content, procedures and responsibilities of engaged stakeholders.

Considering publicly valid and accredited programmes, these requirements are achieved. The qualifications are described, the procedures for obtaining, verification and certification are defined, the provider and the issuer of the credential are transparent and quality assured. Different situation occurs in the area of non-formal and non-accredited short training and education programmes, that operates within the rules of demand & supply in the market. A desire of providers and issuers to stay in the education and training market for longer period could be a catalyst for quality assurance of these microcredentials. Such learning activities present a grey zone, as the quality assurance and trustworthiness are not ensured systematically.

CHAPTER 5. Conclusions

The Slovenian case study on the role of microcredentials in the labour market within vocational and professional education is based on the in-depth analysis of national strategic and professional documents and legislation as well as analysis of the interviews with key national stakeholders in the field of VET: Ministry for Education, Science and Sports, Ministry for Labour, Family, Social Affairs and Equal Opportunities, representatives of employers and employees associations and VET providers. The survey analysis served as supportive element for analysing the phenomena of microcredentials on a national level, with some limitations for interpretation due to the low response rate.

The national context is important for exploring the phenomena of microcredentials on a national level given the strong role of formal education in Slovenia (in general education, VET and higher education), as well as high rate of well-educated population and high proportion of students in vocational education and training, compared to the EU average (Cedefop, 2020). Moreover, Slovenia has already implemented a comprehensive NQF including all levels and types of qualification from formal education and training, to the system of national vocational qualifications and non-regulated supplementary qualifications.

The term microcredentials in the area of vocational education and training and adult education has different levels of familiarity amongst various groups of stakeholders. For national authorities, especially those who are responsible for VET, the term microcredentials is a novelty. In the higher education, the term microcredential is more commonly used. The term and the concept of microcredentials is already known among VET providers. Lower familiarity with the term microcredentials is shown amongst employees and employers organisations.

There is no commonly agreed and official definition of microcredentials on a national level yet. Both national authorities, as well as VET providers listed different short formal and non-formal education and training programmes, that have similar characteristics and function to microcredentials, such as flexibility, quick responsiveness to the labour market needs and they serve as a way for upskilling, re-skilling, updating knowledge, but they do not have the uniform terminology on a national level.

Microcredentials are currently not included in strategic documents on a national level, as Slovenia has not yet defined the term and recognised microcredentials as a special system/segment. However, policy discussions on microcredentials are already underway and are mainly taking place in narrow professional circles.

Majority of stakeholders emphasised that there already exists a wide range of short education and training programmes that comply with the characteristics of microcredentials. Some of them are included in the national qualifications system, some of them are not, but none of them are described as microcredentials. Thus, considering already existing types of qualifications that are close to the characteristics and functions of microcredentials, it could be said, that in some way microcredentials are indirectly included in the national qualifications system.

The main actors providing learning and training activities that comply with the characteristics of microcredentials are different entities who were recognised as providers of formal/informal training or education and reach prescribed quality requirements. In some cases, also employers or their associations organise such learning activities.

The definition of main and most important characteristics of microcredentials depends on commonly agreed definition on microcredentials, which is still not in place on a national level. Therefore, the respondents in the interview listed only potential characteristics, with emphasis on flexibility, responsiveness to the labour market needs, short duration, adaptability, encouraging and enabling lifelong learning, addressing the need for re-skilling and up-skilling for the labour market needs.

The analysis of the interview and survey amongst all groups of stakeholders emphasised the need for microcredentials. However, the rationale for the use of short training and education programmes, that comply with the characteristics of microcredentials, varies upon the group of stakeholders and their specific needs. The interviewees outlined that the main benefits and added value of microcredentials for end users differ according to specific user group.

Regarding the question of trust in microcredentials, the value of the shorter training and education programmes on the market is not entirely clear and transparent and not all of them are trustworthy. From the interview analysis, the important aspect is detected in the statement, that there is a greater trust in those types of qualifications that are included in the national qualifications systems.

The sectoral analysis outlined that microcredentials could play an important role in the labour market oriented education and training that are connected with national strategic development priorities which are defined in the national strategic document Smart Specialisation strategy (S4). The stakeholders in the sector reported on the common use of different types of short training and education arrangements outside formal education in the area of ICT that comply with characteristics of microcredentials, even though they are not explicitly defined as microcredentials.

In order to overarch mainly hypothetical statements about the use of microcredentials on a national level, it is primarily necessary to define the term and purpose of microcredentials on a national level, considering wider national context and Slovenia's strategic future orientation in the education and training. Only transparency, clarity of microcredentials and consideration of the national context will ensure long-term sustainability and stakeholder's trust in microcredentials.

List of abbreviations

CEDEFOP	European Centre for the Development of Vocational Training
CPI	Institute of the Republic of Slovenia for Vocational Education and Training
CVET	Continuing Vocational Education and Training
ECTS	European Credit Transfer and Accumulation system
EQF	European Qualifications Framework
EU	European Union
ISCED	International Standard Classification of Education
MDDSZ	Ministrstvo za delo, družino, socialne zadeve in enake možnosti / Ministry for Labour, Family, Social Affairs and Equal Opportunities
MIZŠ	Ministrstvo za izobraževanje, znanost in šport / Ministry for Education, Science and Sports
NVQ	National vocational qualifications
NQF	National qualifications framework
SQF	Slovenian Qualifications Framework
UMAR	Urad Republike Slovenije za makroekonomske analize in razvoj / Institute of Macroeconomic Analysis and Development of the RS
VET	Vocational Education and Training

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Annex 1 A list of interviewees

The list of interviewees consists of representatives of national authorities, employer organisations, employee organisations, private and public VET providers.

Table 1. A list of interviewees

No.	Name and surname	Stakeholder group	Country	Date
1	Slavica Černoša	National authority	Slovenia	18.5.2021
2	Andreja Sever	Employer organisation	Slovenia	26.5.2021
3	Martina Vuk	Employee organisation	Slovenia	24.5.2021
4	Barbara Kranjc	VET provider (private)	Slovenia	24.5.2021
5	Fani Al Mansour	VET provider (public)	Slovenia	27.5.2021
6	Maja Grašič	National authority	Slovenia	01.6.2021
7	Tina Kastelic	ICT sector	Slovenia	13.11.2021
8	Duša Marjetič	National Authority	Slovenia	11.7.2021