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Accompanying the document

Proposal for a Council Recommendation

on a European approach to micro-credentials for lifelong learning and employability

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Introduction

In the Commission political guidelines, Commission President Ursula von der Leyen states her intention “to bring down barriers to learning and improve access to quality education”, underlining the relevance of inclusion and quality in lifelong learning as proclaimed in the European Pillar of Social Rights.

Subsequently, the European Skills Agenda, adopted on 1 July 2020, announced among its 12 flagship actions a new initiative on a European approach to micro-credentials, with the aim to support the quality, transparency and take-up of micro-credentials across the EU, in order to encourage people to upskill and reskill in a fast and effective way, in line with needs of the labour market and a fast-changing society.

Equally, the Commission Communication on achieving the European Education Area by 2025, adopted on 30 September 2020, announced that the Commission would work towards the development of a European Approach to micro-credentials, to help widen learning opportunities and strengthen the role of higher education and vocational education and training institutions in lifelong learning by providing more flexible and modular learning opportunities.

As a follow-up to these actions, the 2021 Commission Work Programme¹ commits to proposing a European approach to micro-credentials under the headline ambition “Promoting our European way of life”. Accordingly, the European Commission is putting forward a proposal for a Council Recommendation on Micro-credentials for lifelong learning and employability to adopt a common definition and approach to quality, transparency, and uptake of micro-credentials, by building on existing tools, as far as possible.

The proposal aims to:

- Enable individuals to acquire the knowledge, skills and competences they need to thrive in an evolving labour market and society, to benefit fully from a socially fair recovery and just transitions to the green and digital economy;
- Support the preparedness of providers of micro-credentials to enhance the transparency and the flexibility of the learning offer in order to empower individuals to forge personalised learning and career pathways;
- Foster inclusiveness and equal opportunities, contributing to the achievement of resilience, social fairness and prosperity for all, in a context of demographic change and throughout all economic cycles.

To achieve these objectives, the proposal establishes a European approach recommending to Member States to:

- Apply a common EU definition, standards and key principles for design and issuance of micro-credentials;

¹ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020DC0690>

- Develop the eco-system for micro-credentials, and;
- Deliver on the potential micro-credentials to support employability and lifelong learning.

This staff working document provides evidence and additional background information to the Proposal for a Council Recommendation on Micro-credentials for lifelong learning and employability.

- **Chapter 2** looks at the drivers behind micro-credentials and offers an overview of the state of play as well as examples of existing practices.
- **Chapter 3** provides evidence for the need for Council a Recommendation and highlight the value of an EU-level action.
- **Chapter 4** summarises the main findings of the consultation process.
- **Chapter 5** presents the general, specific and operational objectives of the proposal linked with the problematic issues identified earlier. It also contains a short explanation of necessity and added value of an EU action.
- **Chapter 6** presents the conclusions for a European approach and how it would improve the situation and support the objectives presented in Chapter 5.

1. State of play

Note: The subject of this Commission proposal is micro-credentials, meaning the record of the learning outcomes that a learner has acquired following a small volume of learning. The proposal does not focus on the course or learning experience itself that may lead to the micro-credential (although the course, providers and other aspects of the learning experience may be an important factor in the quality assurance mechanisms for the issuance of the micro-credential).

1.1. Increasing Demand for flexible learning opportunities

The phenomenon of micro-credentials is not a new one. Small, usually short in duration courses leading to different types of awards or credentials, are already dominant in many education and training sectors, professions and labour market systems e.g. in diving instruction, IT certification, and in continuing professional development for health workers. The advance of technology, changes to the nature of work and new ways of learning (supported by the emergence of platforms and online learning) have repositioned the central learner’s role as they “build their own learning pathways”.

Since the start of the COVID-19 crisis however, there has been an unprecedented surge in demand for online learning, including for short, tailored courses². Personalised learning, micro-learning and high-velocity training are amongst the key global education trends identified by Euromonitor. Interest in

² Cedefop, 2020. Coronavirus boosts interest in online learning. Available at: <https://www.cedefop.europa.eu/en/news-and-press/news/coronavirus-boosts-interest-online-learning>

micro-credentials has exploded. An analysis of Google Trends by Brown et al (2021)³ reveals that the term 'micro-credentials' first appeared in Google search results in 2013 and there has been steady and continuous growth in the number of online searches for the term since then. **Figure 1** shows that the highest point in the trend data for the term "micro-credentials" was reached in May 2021. This demand for small and shorter learning options and their recognition is set to continue within the context of the recovery from the COVID-19 crisis.

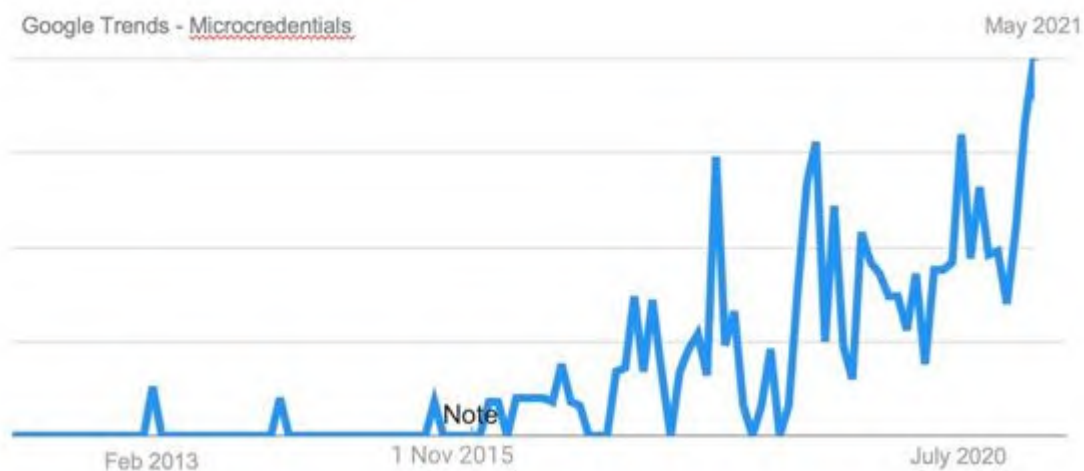


Figure 1: Growth of micro-credentials evidenced by Google search traffic

Providers and delivery modes of micro-credentials are multiplying, they may be offered by a range of organisations, not all of which are traditional providers of training and education. Micro-credential providers include schools, higher education institutions, vocational education and training (VET) providers and private education and training providers. Providers also include specialised learning platforms, collaborative initiatives that focus on particular professions and occupations, and a growing number of companies and professional associations that design their own competency-based offerings. Finally, public and non-profit bodies such as charities, government departments and international organisations may offer micro-credentials related to their missions.

Higher education institutions have been active for quite some time in providing lifelong learning opportunities, or units smaller than full degrees, such as courses, modules, diplomas, parts of degrees, in-service training, etc⁴. VET programmes have similarly shifted to become more flexible and learner centred, through face-to-face, digital and blended learning, flexible and modular pathways. Continuing

³ Brown, M., Nic Giolla Mhichíl, M., Beirne, E., & Mac Lochlainn, C. (2021). The global micro-credential landscape: Charting a new credential ecology for lifelong learning. *Journal for Learning Development*, 8 (2), 228-254.

⁴ MICROBOL. (2021). Micro-credentials linked to the Bologna Key Commitments: Recommendations from the MICROBOL project for the European Commission's proposal for a Council recommendation on micro-credentials for lifelong learning and employability. Available at <https://eua.eu/resources/publications/940:micro-credentials-linked-to-the-bologna-key-commitments.html>

vocational training is by its nature closely aligned to shifts and demands in the labour market and makes use of micro-credentials to support individual up-skilling or reskilling needs⁵.

Task and competence-oriented certificates linked to shorter learning experiences, already play an important role in many parts of the labour market (offered by sectors, private companies, international organisations and public bodies)⁶. For instance, certificates and small training bundles in technical skills such as welding, computer networking, or accounting are in high demand in the US⁷). **Figure 2** shows the top 5 most requested certificates and certifications.

Top 5 Certifications	Number of Requests	Top 5 Certificates	Number of Requests
Certified Public Accountant (CPA)	276,880	Home Health Aide Certificate	18,007
Project Management Certification (PMP)	202,971	Paralegal Certificate	12,234
Certified Information Systems Security Professional (CISSP)	91,981	Phlebotomy Certificate	10,485
Automotive Service Excellence Certificate (ASE)	67,973	Medical Billing and Coding Certificate	8,466
Cisco Certified Network Associate (CCNA)	67,746	Typing Certificate	4,245

Figure 2: Top 5 US Job requests for Certificates and Certifications

Major corporate actors have been described as disruptive forces, challenging the status quo of traditional education and training models through short courses credentialed by corporate actors themselves to support both entry level and career advancement⁸. Examples include Google which recognises these courses as the equivalent of a full bachelor’s degree for recruitment selection purposes⁹; and EY and IBM which have both adopted recruitment strategies that give people a foot in the door based on non-traditional education, and soft or transversal skills¹⁰. These organisations also continue to partner with other stakeholders, for instance, Google recently launched career certification in IT aligned pathways for

⁵ Cedefop, ongoing study [on micro-credentials role in facilitating learning for employment](#)

⁶ Cedefop (2021). Microcredentials: are they here, 2nd March. Available from <https://www.cedefop.europa.eu/en/news-and-press/news/microcredentials-are-they-here-stay>

⁷ Markow, W., Restuccia, D., Taska, B., & Bittle, S. (2017). The Narrow Ladder: The Value of Industry Certifications in the Job Market. Report: BurningGlass Technologies. Available at https://www.burning-glass.com/wp-content/uploads/BurningGlass_certifications_2017.pdf

⁸ Fain, P., (2019) Employers as Educators, InsideHigherEd,

⁹ Bariso, J. (2020). Google has a plan to disrupt the college degree. Inc, 19 August. <https://www.inc.com/justin-bariso/google-plan-disrupt-college-degree-university-higher-education-certificate-project-management-data-analyst.html>

¹⁰ Oliver, B. (2019). Making micro-credentials work for learners, employers and providers. Deakin University. Available at <https://dteach.deakin.edu.au/wp-content/uploads/sites/103/2019/08/Making-micro-credentials-work-Oliver-Deakin-2019-full-report.pdf>

job seekers, in areas of high unemployment in Ireland in partnership with a local Education and Training Board and with an international MOOC platform¹¹.

These patterns reflect a global trend. For instance, in Australia, a recent media piece on micro-credentials claims micro-credentials are “huge and hiding in plain sight”¹² and reports that in 2019 there were 2.6m people enrolled in non-qualification “training bundles”, primarily to meet regulatory requirements in workplace safety, emergency preparedness, and authority to operate. This figure is confirmed in a detailed analysis of micro-credentials in Vocational Education and Training (VET) in Australia where it is reported that this sector is largely a ‘private’ market with over 90% of these short training bundles funded on a fee-for-service basis¹³.

The growth in demand and uptake of Massive Online Open Courses (MOOCs) is one of the most notable trends to consider in the context of micro-credentials and the biggest indication of the dramatic growth in learner engagement with short, online courses. By the end of 2020, more than 180 million learners had enrolled in over 16,000 Massive Online Open Courses (MOOCs) throughout the world, with around 1200 micro-credentials¹⁴.

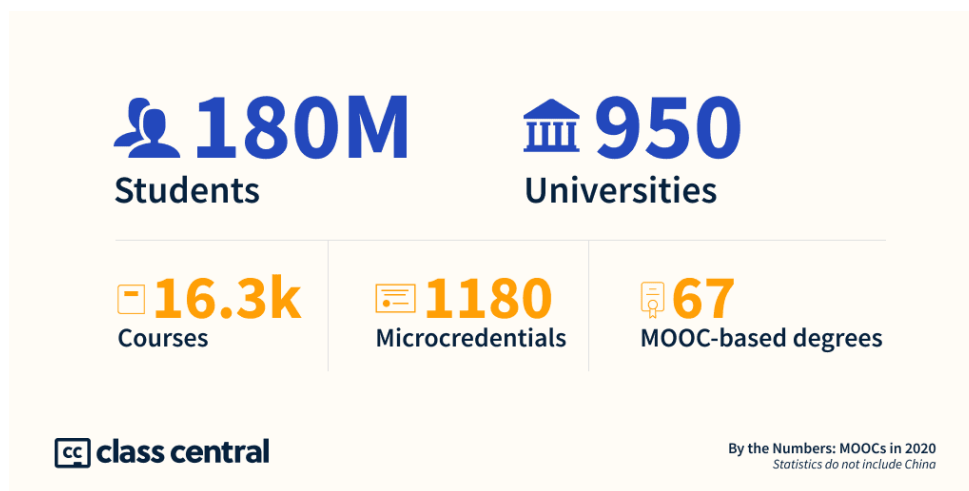


Figure 3: Growth of MOOCs in 2020

¹¹ O’Dea, B. (2021) Google Ireland will offer 1,000 scholarships for Dublin jobseekers, Silicon Republic, Available at <https://www.siliconrepublic.com/careers/google-ireland-dublin-jobseekers>

¹² Campus Morning Mail (2021, June 4). Micro-credentials: huge and hiding in plain sight. Available at: <https://campusmorningmail.com.au/news/micro-credentials-huge-and-hiding-in-plain-sight/>

¹³ Palmer, B. (2021). An analysis of ‘micro-credentials’ in VET. NCVET Research Report, Adelaide, Australia. Available at https://www.ncver.edu.au/_data/assets/pdf_file/0041/9666257/An-analysis-of-micro-credentials-in-VET.pdf

¹⁴ Shah, D. (2020a). By the numbers: MOOCs in 2020. Available at: <https://www.classcentral.com/report/mooc-stats-2020/>

In June 2020, there were almost 50 million visits to the major platforms around the world¹⁸. ClassCentral has also reported that the numbers of sessions on the major MOOC platforms during March and April 2020 were up 50% to 400% on previous years¹⁵.

MOOC platforms are considered an important global player in the development of micro-credentials¹⁶. The global online degree and micro-credential market is predicted to grow exponentially over the next few years, with an estimated value of US \$118 billion by 2025. The learning platform market is booming and the number of course providers is growing rapidly, from companies such as edX, 2U, Coursera and Credly to new players LinkedIn, Google, and PwC. There is also growing use of online learning platforms by public authorities (e.g France Universitaire Numérique¹⁷ in France, EduOpen¹⁸ in Italy) and specific institutions, created through collaboration between institutions and/or sectors or established by private providers for profit or non-profit purposes. Characterised as flexible, open, self-paced, highly interactive, interdisciplinary and cost-reducing, MOOCs are being considered by many diverse actors within education¹⁷, training and industry. It should be noted that not all MOOCs lead to certification; MOOC providers often offer an option to purchase or apply for a certification to recognise completion of the MOOC.

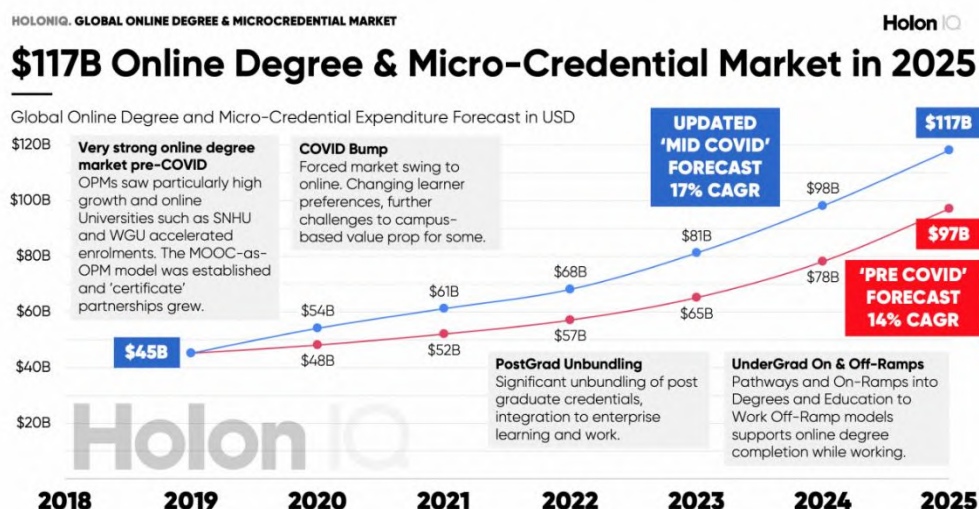


Figure 4: Predicted growth in the global market for micro-credentials

This development of myriad online platforms has created a new dimension to not just online learning but learning more broadly. Micro-credentials offered on online platforms have inherent perceived

¹⁵ Shah, D. (2020b). How different MOOC providers are responding to the pandemic. Available at: <https://www.classcentral.com/report/mooc-providers-response-to-the-pandemic/>

¹⁶ MICROBOL. (2020) Micro-credentials linked to the Bologna Key Commitments. Desk Research Report.

¹⁷ <https://www.fun-mooc.fr/fr/>

¹⁸ <http://learn.eduopen.org/>

advantages, in comparison with traditional models of education and training offers. Learners are usually able to choose from and compare a wide range of opportunities and view feedback of other learners who have completed the programme. Such platforms can also offer the ability to ‘stack’ and combine micro-credentials to earn larger credentials over time.

Education and training institutions that do offer micro-credentials through online learning platforms are encouraged to demonstrate their comparative advantage by increasing the accessibility and relevance of the learning experience including links with traditional education and training programmes (e.g. by offering credit) and demonstrating collaboration with the industry on micro-credential development¹⁹. Credit recognition is increasingly used for micro-credentials completed online and offers the learner a tangible recognition of the learning experience as well as a way to pursue studies towards a qualification.

The rapid growth in online learning platforms poses questions about the shift to online learning, resources required at national level to respond to the shift and also the dominance of providers located outside of Europe.

1.2. Main drivers of demand

This section presents an overview of the multiple influences and drivers which are stimulating the demand for micro-credentials and which have seen education and training organisations, social and labour market organisations seek to respond to these demands.

1.2.1. Lifelong Learning and personal development

Initial education and training plays a formative role in personal development but the demands and reality of life mean that personal development is a necessary process throughout life. Personal development enables personal fulfilment and growth throughout life. Personal development is necessary to cope with the demands and transitions in a fast-changing society, to make choices and take decisions, and to set goals and realise ambitions.

Lifelong learning is an enabler of personal development. People can be inspired and motivated to learn and develop skills in topics not directly relevant to their career in which they have a personal interest including hobbies, volunteering, and working in their community.

¹⁹ OECD (2021), “Micro-credential innovations in higher education: Who, What and Why?”, OECD Education Policy Perspectives, No. 39, OECD Publishing, Paris, https://www.oecd-ilibrary.org/education/micro-credential-innovations-in-higher-education_f14ef041-en

Learner Perspective

Micro-credentials are at the service of the individual's learning and professional development. A learner-centred approach has the potential to support people throughout their lives and engage them as owners and active agents in their learning and career pathways.

Learners are not a single homogeneous group and it is important to acknowledge this diversity of learners in any approach to micro-credentials. Micro-credentials can support an array of learning pathways and contexts including different employment status (stable, full-time employment, part-time, freelance, etc.), levels of education and training, personal development needs and challenges faced by specific groups (such as disabilities, age, social and economic background, digital literacy etc).

The typical motivation of learners depends on personal situation as well as issues such as costs, availability of financial support from employers, the quality of the provider, recognition of the micro-credential by employers as well as the perceived quality of the micro-credential by industry. [Research](#) shows²⁰ that those without the knowledge or cultural capital to navigate the market are likely to invest in training that is not actually valued by employers. On the other hand, more privileged individuals are able to tailor their credentials exactly to employer needs and maximise the benefits. This is borne out in [research](#)²¹ which highlights that those most effectively engaging in micro-credentialing already have degrees and good jobs and are essentially stacking micro-credentials onto existing educational and social privileges. In addition, evidence shows that digital learning tends to favour individuals who possess complex multi-literacy skills and have experience of self-regulated learning. However, some industry-led micro-credentialing initiatives have been successful at attracting non-traditional learners (e.g Google IT Support Professional Certificate).

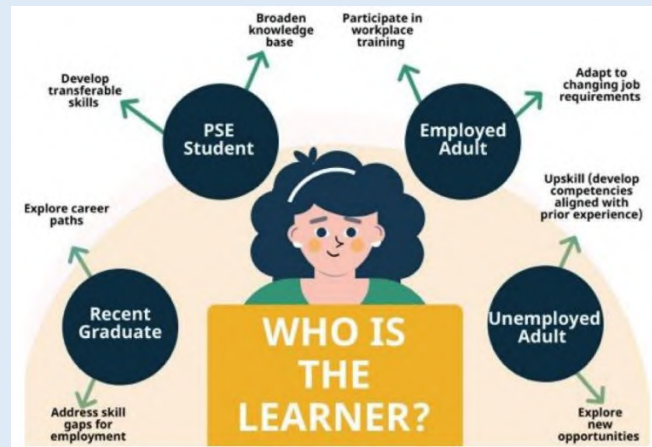


Figure 5: Who is the learner?

²⁰ Death of Human Capital?: Its Failed Promise and How to Renew It in an Age of Disruption - Oxford Scholarship (universitypressscholarship.com)

²¹ [the-short-term-credentials-landscape.pdf \(luminafoundation.org\)](#)

Source: Pichette, J., Brumwell, S., Rizk, J., & Han, S. (2021). Making Sense of Microcredentials.

Available research shows that graduate learners, in particular, tend to use micro-credentials to explore or upskill in topics not directly related to their original field of study. In practice however, learning for personal development may not be easily accessible or a priority for people. One of the key obstacles preventing individuals to participate in new learning opportunities is the lack of time due to professional and personal activities. Micro-credentials have the potential to boost access and participation in lifelong learning by bringing more flexibility to the learning pathways and personalised learning thanks to their, usually short duration, modular approach and portability of credits. This is likely to attract a larger and more diverse number of learners, such as adult learners and offer opportunities to support their personal development or test new fields they would not have the time to dedicate to in the context of a traditional education or training experiences. Learning for personal development can also support development of transversal skills (creativity, critical thinking, complex information processing) which continue to grow in importance. Micro-credentials can play an important role in the developing transversal skills as expressed for example by the ECIU University alliance: “A distinctive feature of ECIU University’s micro-modules is our commitment to Challenge-based Learning (CBL) in order to support the development of creative and resilient European citizens with an entrepreneurial mindset, critical thinking and agility”²². These ‘uniquely human’ skills are more essential than ever and can be used for increasingly diverse job roles as well as to ensure personal fulfilment and growth.

MICROBOL project – identification of drivers

MICROBOL (Micro-credentials linked to the Bologna key commitments)²³ is a two-year project is co-funded by Erasmus+ KA3 Support to Policy reform, and, more specifically “Support to the implementation of European Higher Education Area (EHEA) reforms”.

The project supports ministries and stakeholders in exploring, within the Bologna Process, whether and how the existing Bologna tools can be used and/or need to be adapted to be applicable to micro-credentials.

MICROBOL’s focus on lifelong learning for micro-credentials includes a wide variety of drivers and suggestions²⁴ which align with drivers from the literature, including:

²² Brown, M., Nic Giolla Mhichíl, M., Mac Lochlainn, C., Pirkkalainen, H., & Wessels, O. (2021). Paving the Road for the Micro-credentials Movement: ECIU University White Paper on Micro-Credentials. European Consortium of Innovative Universities (ECIU). Available at https://assets-global.website-files.com/551e54eb6a58b73c12c54a18/600e9e7dff949351b6937d73_ECIU_micro-credentials-paper.pdf

²³ <https://microcredentials.eu/>

²⁴ MICROBOL. (2021). Micro-credentials linked to the Bologna Key Commitments: Recommendations from the MICROBOL project for the European Commission’s proposal for a Council recommendation on micro-credentials for lifelong learning and employability. Available at <https://eua.eu/resources/publications/940:micro-credentials-linked-to-the-bologna-key-commitments.html>

- providing access to education and training to diverse learner groups at a variety of points of an individual's learning journey;
- ensuring collaboration with stakeholders outside and across training and education to ensure the relevance of micro-credentials;
- exploring micro-credentials in terms of the Recognition of Prior Learning and the evidencing of learning i.e. knowledge, skills and competences and;
- translating and transferring knowledge and findings from research into learning for diverse learners but also within the context of lifelong learning.

1.2.2. The right skills for better employability in the EU labour market

COVID-19 and the automation of jobs are identified as the components of an economic “double disruption”, by the World Economic Forum, suggesting that 50% of all employees will need reskilling by 2025²⁵. The pandemic has catalysed governments across the globe to take action to address unemployment, reskilling and the upskilling of workers impacted by the pandemic²⁶. In the short-term, up to 59 million jobs in Europe are at risk due to COVID-19²⁷. Large-scale upskilling and reskilling efforts can help to minimise the impact of job losses. New and evolving work opportunities and practices are creating **an urgent need for re-skilling among workers** with micro-credentials identified as a possible means of supporting this upskilling at scale.

Prior to the pandemic, new and emerging technologies have been reshaping millions of jobs. Increasingly rapid advances in technology and the labour market require an adaptable workforce to be familiar with state-of-the-art knowledge, and to possess the knowledge, skills and competences needed to make full use of technological and non-technological know-how. Employees need ‘just-in-time’ skills development that is immediately applicable. This trend is likely to accelerate with the economic crisis triggered by the COVID-19 pandemic. As skill demands continue to change, individuals will continually need to re-train, reskill or redeploy to avoid redundancy, social and economic displacement in their local communities and to avail of new labour opportunities²⁸. McKinsey Global Institute’s⁷ claim that by 2030, 75 million to 375 million workers (3% to 14% of the global workforce) will need to switch occupational categories or “around 85% of the jobs that today’s learners will be doing in 2030 haven’t been invented yet”²⁹.

²⁵ World Economic Forum (2020) The Future of Jobs report <https://www.weforum.org/reports/the-future-of-jobs-report-2020>

²⁶ Nic Giolla Mhichíl, M., Brown, M., Beirne, E. & Mac Lochlainn, C. (2020). A micro-credential roadmap: Currency, cohesion and consistency. Dublin City University. Dublin. Available at <https://www.skillnetireland.ie/publication/a-micro-credential-roadmap-currency-cohesion-and-consistency/>

²⁷ McKinsey Global Institute (2020), Charting the path to the next normal

²⁸ World Economic Forum (2020) The Future of Jobs report <https://www.weforum.org/reports/the-future-of-jobs-report-2020>

²⁹ Institute for the Future (IFTF) (2017), The Next Era of Human|Machine Partnerships, p.14

The difficulties encountered by people in finding a job in line with their qualifications, demonstrate a misalignment between demand and supply of skills and qualifications, with a large number of individuals graduating in subjects for which there is little demand or for which there is an excess of supply relative to demand. The Eurograduate pilot survey shows that higher education graduates who are employed in a mismatched job earn significantly (13%-18%) less than graduates who find a matching position. Personal satisfaction of graduates who cannot find a job matching their level of qualification is similar to those who are unemployed. Almost one out of four VET graduates work in occupations that do not match their field of study³⁰. In terms of job opportunities, the share of VET graduates employed in high-skill jobs has gone down slightly on average across countries in spite of significant growth of overall employment in high-skill occupations³¹.

Regarding micro-credentials, a European Training Foundation (ETF) survey³² of education, training and labour market stakeholders from non-EU countries (primarily ETF members) found that the main motivation identified for the issue and uptake of micro-credentials is to address a specific work need and to recognise learning outcomes achieved outside formal education. This link with employability is also demonstrated in the results of the public consultation presented below.

Employer Perspective

While there has been limited research, the available literature indicates that awareness and experience with micro-credentials are low³³ among employers. Even though employer recognition is expected to increase rapidly, this lack of awareness also means that micro-credentials have yet to meet their full potential as a tool for supporting learning in the workplace. The need to raise awareness among employers and consult with professional bodies in the development of micro-credentials was highlighted in the Joint ETUC–ETUCE (2020) position statement on micro-credentials³⁴.

Employers are actively entering the alternative credentials market³⁵ to increase their influence on education and supply of labour, and essentially to improve labour productivity. In the case of formal education programmes, employers' participation in education and training can be limited – they may give advice to the government or education and training institutions or may co-develop some programmes. However, in the case of alternative credential programmes, they can choose learning methods and outcomes more freely and train individuals in the way they wish.

³⁰ OECD (2020), OECD Employment Outlook 2020: Worker Security and the COVID-19 Crisis, OECD Publishing, Paris, <https://doi.org/10.1787/1686c758-en>.

³¹ *ibid*

³² The survey was open until 7 July 2021 at <https://ec.europa.eu/eusurvey/runner/ETFMicrocredentialSurvey2021>

³³ Brown, M., Nic Giolla Mhichíl, M., Beirne, E., & Mac Lochlainn, C. (2021). The global micro-credential landscape: Charting a new credential ecology for lifelong learning. *Journal for Learning Development*

³⁴ Available at: <https://www.csee-etuice.org/en/resources/statements/3908-joint-etuc-etuice-position-on-micro-credentials-in-vet-and-tertiary-education-june-2020>

³⁵ Kato, S., Galán-Muros, V., & Weko, T. (2020). The emergence of alternative credentials. OECD Education Working Papers, No. 216, OECD Publishing, Paris. Available from <https://doi.org/10.1787/b741f39e-en>

Preliminary findings from the Cedefop’s ongoing study [on micro-credentials role in facilitating learning for employment](#) shows that employer organisations in the following sectors are most active in making use of micro-credentials: information and communication (31%), accommodation and food service activities (22%), human health and social work activities (22%) and manufacturing (22%). Least represented sectors are agriculture, forestry and fishing (3%) and public administration and defence (3%).

Employers do not seem to view alternative credentials as substitutes for formal education qualifications; rather, they appear to see them as complementary³⁶. Although different views exist on the labour market relevance of degrees, a degree appears to still work as a signal of one’s skills and knowledge. Micro-credentials need not just be considered for recruitment purposes of course; they can be a key tool in supporting staff development and encouraging lifelong learning. Employer engagement with lifelong learning does vary however. The OECD (2021) Skills Outlook Report³⁷ notes that the number of employees in an organisation determines the likelihood of being disengaged in lifelong learning (see Figure 6). Micro and small employers with fewer staff appear to have higher levels of disengagement.

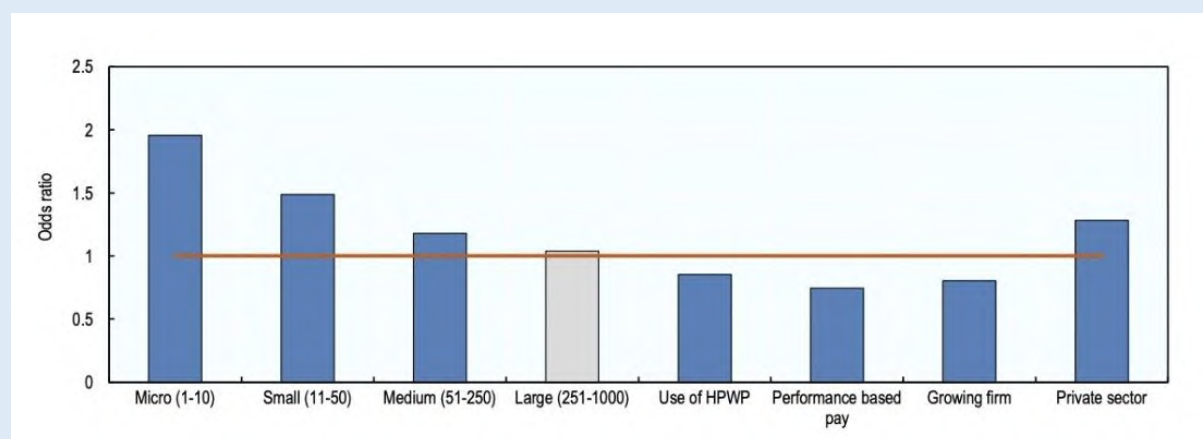


Figure 6: Employer characteristics related to worker disengagement from lifelong learning

Cedefop’s ongoing study [on micro-credentials role in facilitating learning for employment](#) found that employers do see potential benefits of micro-credentials including: improving employee motivation; improving retention of employees; building a culture of CPD; supporting speedier responses to the needs of employers; flexibility for upskilling and reskilling and delivering content that is more relevant to labour market needs. Importantly, there are barriers to delivering on this potential in reality (see Problem Definition below). The study findings also reiterated that, for recruitment purposes it seems

³⁶ Kato, S., Galán-Muros, V., & Weko, T. (2020). The emergence of alternative credentials. OECD Education Working Papers, No. 216, OECD Publishing, Paris. Available from <https://doi.org/10.1787/b741f39e-en>

³⁷ OECD (2021), *OECD Skills Outlook 2021: Learning for Life*, OECD Publishing, Paris, <https://doi.org/10.1787/0ae365b4-en>.

that most employers still seem to regard a traditional degree as a signal of skills and suitability for employment³⁸.

1.2.3. Green transitions

The transition towards a low-carbon economy is expected to create more than 1 million new jobs in the EU by 2030, and more than 2 million by 2050³⁹. Job creation will occur mainly in sectors such as construction, renewable energy production, sustainable transport, waste management, business services and sustainable finance. However, the transition will also lead to job losses, in particular in fossil fuel extraction and processing. Across the economy, task profiles and skill requirements will change fundamentally (e.g. in car manufacturing). Across the board, there is increasing demand for professionals who build and master green technologies, develop green products, services and business models, create innovative nature-based solutions and help minimise the environmental footprint of activities.

1.2.4. Digital transitions

Achieving a human-centric digital transition calls for a step-change in digital skills. Already now, Europeans need digital skills in life and at work: in some job categories, more than 90% of jobs require specific types of digital skills⁴⁰. Around 40% of new jobs were created in digitally intensive sectors between 2005 and 2016⁴¹. However, the rapidly growing demand for digital experts cannot be met. For example, there is a gap of 291,000 professionals in cybersecurity. The COVID-19 pandemic and resulting containment measures were a stark reminder that Europe's workforce - and more widely the whole population - need to rapidly increase their level of digital skills. This was particularly visible in the education and training sector, for students, teachers and trainers alike.

More broadly, digitalisation creates opportunities and challenges when considering the potential of micro-credentials. Digitalisation has made the advent of online platforms, learning and MOOCs possible as well as opened up new opportunities regarding recognition, authentication, interoperability and exchange of information on skills and qualifications through standardised & technical formats for both new and traditional credentials and skills etc. Equally, digitalisation can heighten issues of social inclusion/exclusion, diversity challenges, and risk proliferating and expanding current inequalities across all levels of societies and within economies. Accordingly, it is essential that any approach to micro-credentials leverages the potential of digitalisation to empower people and support inclusion just as much as it can enable innovation and delivery of learning leading to micro-credentials.

³⁸ Kato, S., Galán-Muros, V., & Weko, T. (2020). The emergence of alternative credentials. OECD Education Working Papers, No. 216, OECD Publishing, Paris. Available from <https://doi.org/10.1787/b741f39e-en>

³⁹ Employment and Social Developments in Europe (ESDE) 2019 - Sustainable growth for all: choices for the future of social Europe”.

⁴⁰ [ICT for work: Digital Skills in the Workplace: study carried out for the European Commission by Ecorys and Danish Technology Institute, 2017](#)

⁴¹ [ICT for work: Digital Skills in the Workplace: study carried out for the European Commission by Ecorys and Danish Technology Institute, 2017](#)

1.3. Overview of current provision of micro-credentials

Micro-credentials are provided by a variety of organisations, in the public and private sectors, active in area of education, training, employability, and lifelong learning. Companies, professional associations, government departments and international organisations are increasingly using micro-credentials while some countries such as Ireland and Malta have included micro-credentials within their national education and training system subject to government accreditation and registration⁴².

Figure 7 provides an overview of the main categories of micro-credential providers and delivery channels. Each of these providers and channels have particular advantages and disadvantages in terms of utility and articulation of their offerings and their offer's accessibility to a wide range of learners. In addition, the increasing collaboration between providers from different sectors and technological development is blurring the lines between different provider types and delivery channels. As noted by the OECD (2021)⁴³, these developments are overturning the traditional one-to-many relationship between education providers and learners, and creating a new provider ecosystem that contains a continuum of connections between individual providers and learners.⁴⁴

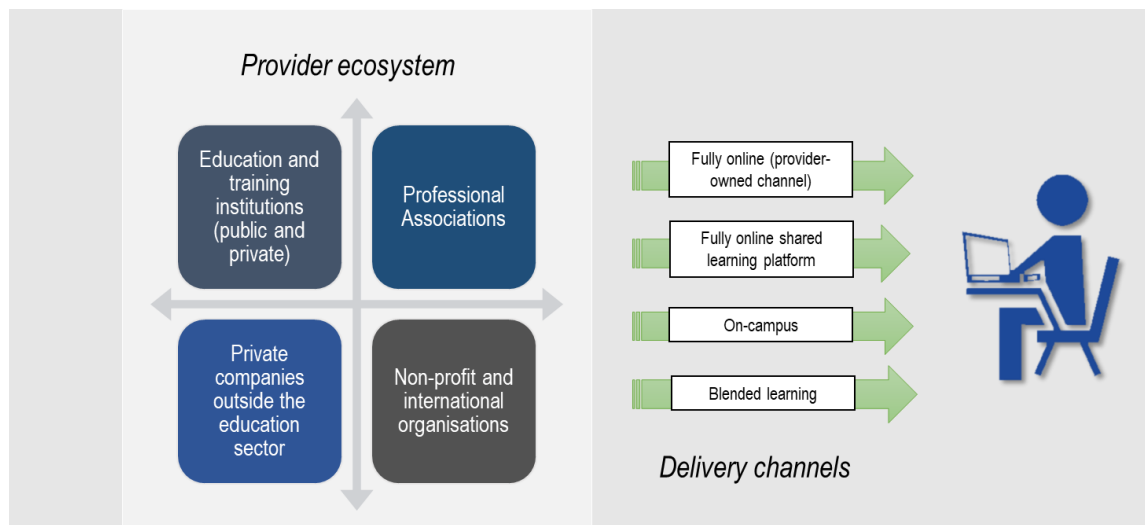


Figure 7. Micro-credential provider ecosystem and delivery channels (OECD 2021)

⁴² New Zealand Qualification Authority (2020), Micro-credentials, <https://www.nzqa.govt.nz/providers-partners/approval-accreditation-and-registration/micro-credentials/>.

⁴³ OECD (2021), "Micro-credential innovations in higher education: Who, What and Why?", OECD Education Policy Perspectives, No. 39, OECD Publishing, Paris, https://www.oecd-ilibrary.org/education/micro-credential-innovations-in-higher-education_f14ef041-enhttps://www.oecd-ilibrary.org/education/micro-credential-innovations-in-higher-education_f14ef041-en

⁴⁴ OECD (2021), "Micro-credential innovations in higher education: Who, What and Why?", OECD Education Policy Perspectives, No. 39, OECD Publishing, Paris, https://www.oecd-ilibrary.org/education/micro-credential-innovations-in-higher-education_f14ef041-enhttps://www.oecd-ilibrary.org/education/micro-credential-innovations-in-higher-education_f14ef041-en

1.3.1. Micro-credentials in higher education

Micro-credentials play different roles within higher education systems, depending on their specific context, structure, traditions and wider factors such as the demand for skills in the wider economy and the existence of other forms of education and training.

Higher education institutions are increasingly expressing an interest in micro-credentials. One of the main reasons is their will to increase their visibility and reputation⁴⁵. Other major reasons, notably associated with MOOCs is the potential cost savings associated with reusable material, limited need for facilities and increased number of students. Micro-credentials also allow for small-scale experimentation of new pedagogies and technologies, improvement of the overall quality of the offering and potential to generate to generate additional revenues. The public mission of higher education institutions also places them on the front line to make of micro-credentials a tool for inclusion and to have a positive impact on participation of disadvantaged groups in lifelong learning.

At the same time, there is evidence from around the globe that some institutions and university consortia are embracing micro-credentials as a way to redesign the traditional curriculum to prepare more work-ready students and graduates. Micro-credentials can have a role to play in supporting more flexible and tailored learning pathways in order to respond to the criticisms of the still-dominant, campus-focused program models: long and relatively inflexible programs; inadequate recognition of prior learning; slow or limited innovation in pedagogy; insufficient student supports for career-readiness; weak alignment to labour market needs; and a limited commitment to online and digital-enabled learning. There is also a growing expectation that learners will require regular upskilling through their lives, with more mobile career pathways, and as tasks associated with particular roles evolve in response to the integration of technology.

Future development of micro-credentials is likely to require comprehensive articulation of the specific function and status of education programmes leading to micro-credentials within the wider set of higher education programmes and qualifications, if they are to achieve wide acceptance among learners and employers. There is also a lack of widespread agreement on how the micro-credentials themselves should be situated with respect to existing qualifications. The international classification of educational qualifications (ISCED) defines a qualification as an award leading to the completion of an entire education programme at a specific level of education, or completion of a stage of a wider education programme. Thus, micro-credentials based on stand-alone education programmes not sufficient for level

⁴⁵ Kato, S., V. Galán-Muros and T. Weko (2020), “The emergence of alternative credentials”, OECD Education Working Papers, No. 216, OECD Publishing, Paris, <https://dx.doi.org/10.1787/b741f39e-en>.

completion and not clearly linked to a wider educational programme currently have no defined place in the ISCED qualifications classification⁴⁶.

To illustrate the diversity of micro-credential programmes offered in European higher education institutions, the OECD (2021) published the below table that presents programmes that fit the characteristics of micro-credentials currently offered in some higher education institutions.

Programme type	Courses within programmes typically have the following characteristics....					Example programmes from the sample set
	Stackable	Nationally-recognised certification	Professional orientation	Educational orientation	Statements of study credits in common currency	
Individual courses and modules from larger programmes	Yes	No	No	Yes	Yes	Free-standing courses (<i>University of Stockholm</i>), Single-module courses (<i>Munster Technological University</i>), Master's degree modules (<i>Baden-Wuerttemberg Cooperative State University</i>)
Extension and complementary courses for existing students (may also be offered externally)	No	No	Yes	Yes	Yes	Extension curricula (<i>University of Vienna</i>), Complementary Certificates (<i>University of Geneva</i>), UCL Extend (<i>University of London</i>)

⁴⁶ OECD (2021), "Micro-credential innovations in higher education: Who, What and Why?", OECD Education Policy Perspectives, No. 39, OECD Publishing, Paris, https://www.oecd-ilibrary.org/education/micro-credential-innovations-in-higher-education_f14ef041-en

Specialisations for the acquisition of specific knowledge and/or skills	No	No	Yes	No	Yes	Specialisation Diploma (<i>University of Seville</i>), Specialisation Courses (<i>University of Porto</i>), Professional Diploma (<i>University College Dublin</i>)
Continuing professional development and training courses	No	No	Yes	No	Yes	Permanent training Diploma (<i>Complutense University</i>), Professional continuous training (<i>University of Helsinki</i>), Specialised training (<i>Budapest University of Technology and Economics</i>)
Continuing education and lifelong learning courses	No	No	No	Yes	No	Continuous education (<i>National and Kapodistrian University of Athens</i>), Lifelong learning programme-hobby (<i>Charles University Prague</i>)
Massive Open Online Courses (MOOCs) and asynchronous learning programs	No	No	No	Yes	No	MOOCs (<i>Utrecht University</i>), Self-learning (Selbstlern) (<i>University of Hagen</i>)
"Own-brand" degrees and diplomas	No	No	Yes	Yes	Yes	Certificate universitaire (<i>Lille University</i>), Higher University Course (<i>University of Barcelona</i>)
Postgraduate sub-degree	Yes	Yes	Yes	Yes	Yes	Postgraduate certificate (<i>University</i>)

programmes						<i>of Birmingham), Postgraduados (Lisbon Polytechnic Institute)</i>
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Figure 8: OECD⁴⁷ research on a sample of 84 European higher education institutions.

Source: OECD (2021), *Micro-credential innovations in higher education: Who, What and Why?*

While a good part of micro-credential programmes across Europe make use of the European Credits Transfer System (ECTS) to express the associated study load of the courses, thus allowing common understanding of how much study and workload was required of the learner to achieve the credential, the amount of ECTS is not standardised and can vary a lot between institutions but also within the institutions themselves. The OECD provides here below a useful comparison of identified micro-credential programmes and their associated number of ECTS. The individual courses on offer ranged from 1 ECTS to 60 ECTS (with 60 ECTS being the equivalent of one year of full-time study).

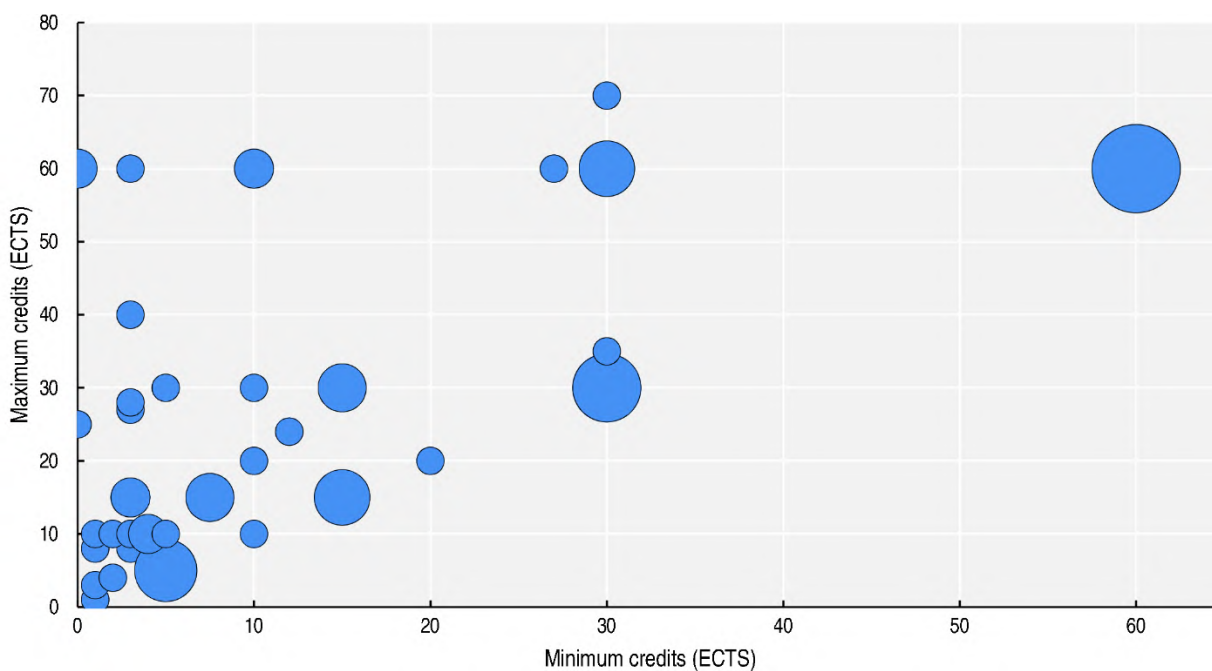


Figure 9. Range of ECTS credits for courses within micro-credential programmes across European higher education systems. The size of the bubble indicates the relative number of programmes with each ECTS range

Source: OECD research on a sample of 84 European higher education institutions⁴⁸

⁴⁷ OECD (2021), “Micro-credential innovations in higher education: Who, What and Why?”, OECD Education Policy Perspectives, No. 39, OECD Publishing, Paris, https://www.oecd-ilibrary.org/education/micro-credential-innovations-in-higher-education_f14ef041-en

Institutions in a number of European countries offer a structured pathway towards stacking short postgraduate qualifications, with similar ECTS range for each qualification. These qualifications are not always labelled as being micro-credentials within national systems but they have the key characteristics of micro-credentials, being short in duration, targeted to a specific topic, and often more flexible in delivery than longer programmes.

An example of these practices can be found in the **Flemish Community of Belgium** where universities offer a range of postgraduate certificates and postgraduate diploma programmes (typically requiring 30 ECTS and 60 ECTS of study respectively). These programmes may be stacked from certificate to diploma to masters.

In the Nordic countries in Europe, higher education institutions share the characteristic to offer a range of different initiatives that can support flexible pathways from single short courses to certifications and higher qualifications. Such educational programmes are often offered by an open university section within higher education institutions to a wider range of learners, with the possibility to stack the credits earned into larger qualifications. These practices form part of a wider framework or tradition in the country. Some of the examples can be found below as described by the OECD (2021)⁴⁹.

Case Study 1: Examples of stackable undergraduate-level short programmes in the Nordic countries

In Finland's Metropolia University of Applied Sciences, the open university of applied sciences section offers students the opportunity to register for individual courses, generally about 5 ECTS in length, or combine the study units into a Path, allowing them to earn 15-30 credits from modules typically offered in the first year of a bachelor's degree. Open Path students follow the same learning material as students enrolled in the complete bachelor's programme, commonly attending the same classes and sitting the same assessments.

In Sweden, universities may offer a range of "free-standing" courses and programmes. These programmes form part of the continuing education system. Typical study loads for free-standing courses might range between 7.5 and 30 ECTS. Courses are open to learners with a range of motivations, and may be provided on a more flexible basis than traditional higher education. For example, in the University of Gothenburg freestanding courses are given continuously during the academic year, in a variety of subjects and levels. Lessons may be in the evening or day-time and can be distance-courses or on-

⁴⁸ OECD (2021), "Micro-credential innovations in higher education: Who, What and Why?", OECD Education Policy Perspectives, No. 39, OECD Publishing, Paris, https://www.oecd-ilibrary.org/education/micro-credential-innovations-in-higher-education_f14ef041-en

⁴⁹ OECD (2021), "Micro-credential innovations in higher education: Who, What and Why?", OECD Education Policy Perspectives, No. 39, OECD Publishing, Paris, https://www.oecd-ilibrary.org/education/micro-credential-innovations-in-higher-education_f14ef041-en

campus. Free-standing courses may be stacked into a degree, if certain conditions are met with regard to complementarity of courses. Credits from courses taken in other Swedish higher education institutions may be transferred to the University of Gothenburg and included in the degree application once the requisite number of credits is reached.

In Norway, the University of Oslo (along with other institutions) offers a “one’-year programme” (*aarsenhet*) of 60 ECTS at the undergraduate level. Students in one-year programmes may study in order to decide whether they like the field of study before committing to a full bachelor’s degree, or in order to deepen their knowledge in their field of work, specialise or retrain. In some fields of study, the one-year program alone can provide a foundation of knowledge for applying for entry-level jobs. Otherwise, the program can be used to gain advanced entry to a bachelor’s degree program in a related subject, or can be counted towards a professional specialisation or qualification.

Source: OECD (2021), Micro-credential innovations in higher education: Who, What and Why?,

These practices are not limited to the Nordic countries and are spreading in other countries as shown by the example of the **Micro-credentials at Dublin City University**. Dublin City University (DCU), launched its first stackable and credit-bearing micro-credential. Before this, DCU had to introduce the concept of micro-credentials into its academic regulations and quality assurance processes.

Case study 2: Micro-credentials at Dublin City University (DCU)

DCU Business School introduced a short online course called the FinTech – Financial Innovation Micro-credential. It is a 12-week online programme worth 5 ECTS credits at postgraduate level from Dublin City University. The course explores the interaction between finance and technology and its impact on the financial services industry.

To qualify for direct entry into this course, learners need to fulfil one or more of the following criteria:

- Have several years of experience in financial services or a related sector.
- Have completed relevant, accredited Continuing Professional Development learning.
- Hold a Level 8 (undergraduate) Honours Degree (2:1) or higher in business, finance, or a related discipline under the Irish national framework.

DCU made a strategic move to begin with micro-credentials at postgraduate level. Postgraduate-level courses leading to micro-credentials have the potential to reach learners who are unable to study full-time in class due to personal reasons (e.g. career or family).

After the launch of the Common Micro-credential Framework (CMF), Dublin City University entered into a global strategic partnership with FutureLearn to provide its first micro-credential. FutureLearn is a digital education platform founded in December 2012 and jointly owned by The Open University and SEEK Ltd. It is a massive open online course (MOOC) learning platform. All of its online micro-

credentials are designed to upskill learners for work in rapidly growing industries, without the time and cost commitment of a full degree. Each micro-credential includes a formal online assessment and meets the standards set by the CMF. By using FutureLearn, higher education institutions gain greater flexibility, because courses can start at any point in time and can attract a global student body.

In 2018, DCU started using Digitary, a leading platform for certifying, sharing and verifying academic credentials. The university uses an online document sharing service called Digitary Core, through which students and alumni can access their Diploma Supplement and share academic records with employers and other education providers. Digitary Core guarantees security and is password-protected. The Digitary platform also serves as a useful tool for certifying and issuing micro-credentials, replacing paper documents with digitally signed electronic documents and replacing manual processes with automated ones. The platform enables records to be verified instantly with full learner consent, thus maintaining regulatory compliance and eliminating the hassle of manual verification, and making certificates both secure and less costly.

European university alliances act as test beds for innovation in the European higher education area. They lead and pave the way for other higher education institutions to follow. Among them, many plan to develop micro-credentials on a larger scale in order to offer increased innovation in higher education, flexible learning pathways and technology enhanced learning, as well as more inclusive curricula and pedagogies.

Case study 3: Some micro-credentials solutions implemented under the European Universities Initiative:

European Consortium of Innovative Universities (ECIU)

ECIU strongly supports the movement supporting micro-credentials. ECIU published white papers in 2020 and 2021 on micro-credentials, setting out their ongoing work on micro-credential development and their future strategy. ECIU's micro-credentials relate as a core component in their objective to provide personalised, challenge-based learning that harnesses innovative digital technologies. These offerings are underpinned by a Learner Transformation Framework that articulates how we are seeking to develop life-long learners capable of shaping a better future for all. ECIU members have also developed more than 100 micro-modules on topics related to the achievement of the SDGs, available to learners enrolled in their partner universities.

ECIU is actively contributing to the development of a range of digital credentials and to ensuring new ways how learners can collect the proofs of their learning outcomes and newly acquired skills in a digital competence passport. ECIU is collaborating with Europass to jointly develop a proof-of-concept for the competence passport that will be validated in large-scale field trials organized by ECIU.

Young Universities for the Future of Europe (YUFE)

YUFE seeks to provide personalised academic curricula that will form the backbone of an equitable, diverse and effective education system that recognises and optimally fosters individual talents. In this context, YUFE will provide students with unique opportunities to be trained in an inclusive research- and work-based learning ecosystem, leading to interdisciplinary and intersectoral knowledge and skills.

In line with its goals, **YUFE aims to develop an approach to micro-credentials**. The main objective of introducing micro-credentials is to promote inclusiveness and expand the benefits of higher education beyond the ‘usual suspects’. YUFE will build **a catalogue detailing what member organisations are already doing**. This catalogue will help to gain a sense of the various contexts, to gather good practices, and to understand the existing frameworks. This knowledge will allow YUFE to consider these existing frameworks for its own practice.

European University for Well-Being (EUniWell)

The **EUniWell** initiative is currently developing micro-credential programmes, with the aim of starting offering pilot programmes in the academic year 2021/22. The programmes will focus on well-being, and seven member institutions will collaborate in the development and delivery of these programmes. The programmes were developed after each member of the EUniWell network reviewed their offering to see how they could contribute to the EUniWell micro-credential programmes, and then subsequently mapped their offering and discussed the structure and content of the programmes.

European Civic University (CIVIS)

Similarly, the **CIVIS** initiative plans to offer micro-credential programmes on several topics, including climate change and socio-cultural heritage. Teachers across nine member higher education institutions are invited to submit a micro-credential programme proposal in these areas. Micro-credential programmes can be developed at both undergraduate and graduate levels, and the size of the programmes are expected to be around 5-15 ECTS. Cooperation among the member institutions is required for the approval of the programme proposals, for example, the involvement of lecturers from each institution. In both examples – EUniWell and the European Civic University - micro-credentials will be awarded from the alliance itself, rather than from the individual institution.

EuroTeQ Engineering University (EuroTeQ)

The **EuroTeQ Engineering University** is developing micro-credentials and individual study paths for learners that will lead to either a EuroTeQ honours degree, or a “EuroTeQ professional” qualification for

learners undertaking professional training and development.

Among other initiatives: the European Universities Transforming to an Open Inclusive Academy for 2050 (**EUTOPIA**) and the Challenge-Driven, Accessible, Research-based and Mobile model for the co-creation of a European University aligned with the European Values, the European Green Deal and the Sustainable Development Goals (SDGs) (**CHARM-EU**), the **Una Europa alliance** are currently discussing or building joint development of micro-credential programmes.

1.3.2. Micro-credentials in Vocational Education and Training (VET)

The emerging picture on the use of micro-credentials in Vocational Education and Training (VET) is disparate and varying as VET systems themselves. Nevertheless, there is widening use of short courses leading to awards (that may not necessarily use the term ‘micro-credentials’) by VET providers.

Based on the feedback received during a dedicated webinar with members of the Advisory Committee on Vocational Training organised on 20 January 2021, micro-credentials seem to have the biggest potential in upskilling and reskilling of adults. In the context of quickly changing and emerging skills needs and the need for upskilling and reskilling, micro-credentials can be an effective tools to supplement initial VET qualifications. Members advised that micro-credentials should not replace initial vocational qualifications. There are however some promising avenues for linking them to initial VET such by increasing flexibility / modularising VET and providing solutions for specific contexts, such as optional parts of initial VET curricula, continuing vocational education and training (C-VET), additional learning opportunities for learners with special needs or those who dropped out from VET, pathways to facilitate permeability between VET and higher education and learning opportunities for continuous professional development of teachers and trainers in VET.

Internationally, there has been notable research on the interest in micro-credentials in the Australian VET system⁵⁰ which found that micro-credentials are used primarily for regulation and skills maintenance, in areas such as workplace safety, emergency preparedness and authority to operate. These micro-credentials were largely provided by the ‘private’ market (more than 93% of subjects were funded on a fee-for-service basis — with relatively little government intervention). In these cases, employers or the individual is prepared to pay for the training due to a regulatory requirement and this that the training has a recognised value.

The examples listed below are taken from Cedefop’s ongoing study [on micro-credentials role in facilitating learning for employment](#):

Case Study 4: Micro-credentials in VET

⁵⁰ An analysis of ‘micro-credentials’ in VET, [An-analysis-of-micro-credentials-in-VET.pdf \(never.edu.au\)](#)

1. Denmark

Short vocational training programmes in Denmark (arbejdsmarkeduddannelser – ‘AMU’) is a flexible system which aims at meeting current changes and skills needs for mainly for low skilled and skilled workers on the labour market on the labour market. The programmes are available to everyone who are residents or hold a job in Denmark. However, they mainly target unskilled and skilled workers in employments. In general, there are three main types of programmes directed at: specific job/sector related competences, e.g. crafts, technical insight and knowledge of materials; general competences, e.g. ICT, job relevant languages; personal competences, e.g. social communication, organization and management. AMU micro-credentials are developed based on tripartite cooperation. The certification is always based on assessment. The AMU trainings are included in the Danish Qualifications Framework (level 2-5), and some of them are recognised as part of formal vocational qualifications. The AMU-certificate can be awarded to the individual based on validation.

2. Iceland

Micro-credentials are used at RAFMENNT Electrical VET Centre RAFMENNT which is a vocational, educational and training (VET) centre for electricians, electronic technicians in all industries and sectors and technicians in the fields of telecommunication, information technology, audio-visual, broadcasting and the creative industries in Iceland. The centre offers courses for skilled electricians and electronic technicians who have completed their education, either their trade education and/or their trade master education as well as for Telecom, AV, IT, Broadcast and CI technicians. RAFMENNT is also currently developing a health and safety micro-skills programme for the Creative Industries

3. Norway

Tripartite industry programmes for skills development (*bransjeprogram*) are developed as part of the Norwegian Skills Programme. The central government and the social partners work together to increase participation in skills development within selected industries. Ten industry programmes are currently in place which give skilled workers an opportunity for upskilling while in full employment. Most courses are also accessible for furloughed and unemployed workers during the pandemic. Courses are meant to address skills gaps identified by the partners. The courses are offered by providers of initial vocational education, vocational colleges, higher education institutions and others. Some of them result in formal credits, e.g. higher VET credits.

Shorter programmes in higher VET: A recent amendment to the Norwegian Act relating to tertiary vocational education allows for shorter programmes at vocational colleges. All programmes and courses will have to be accredited through the usual process, managed by the Norwegian Agency for Quality Assurance in Education. Shorter programmes will be able

respond to industry needs for upskilling, while making further education more accessible for skilled workers.

4. France

In France, micro-credentials are discussed in the context of the transformation of the VET system. Although definitions might be lacking, it can be said that the French qualifications structure has embarked on a route that largely accommodates the micro-credential model. Firstly, the philosophy of the reform encourages the development of short training activities/courses that are easily accessible to learners/professionals. The development of skills or qualification portfolios (e-portfolio) initiatives represent tools that would encourage the introduction of micro-credentials. Therefore, there is a potential for micro-credentials to be integrated into this general framework. Secondly, micro-credentials are aligned with the digitalisation movement that is gaining momentum within the French VET system. OpenClassrooms is a French-based online education platform that offers education-to-employment programs and career coaching services for students worldwide. Learners accumulate certificates towards a degree in IT and business topics which are recognised by the French State. Courses are conducted fully online, through a mix of video resources, online reading, real-life projects and individual mentoring sessions. They also have Career Paths, which include weekly, one-on-one mentoring sessions with dedicated professionals from relevant fields who support programme participants throughout their studies.

5. Germany

In Germany, there is an ongoing discussion about modularisation and certified training supplements in German VET. The BIBB (Federal Institute for Vocational Education and Training) was commissioned by the BMBF (the Federal Ministry of Education and Research) to offer technical and administrative support for research and development studies and projects with regard to modularisation in German VET. Many of those projects built and offered online platforms with digital learning modules. The BIBB, in cooperation with social partners, IHKs (Association of German Chambers of Industry and Commerce), training providers and VET researchers, developed training modules for more than 30 professions (Germany case study, 2021).

6. Netherlands

The Edubadges platform is the digital certificates platform for the Dutch education community.

edubadges enable organisations to award students or workers with evidence of knowledge and skills they have acquired. An edubadge is an electronic certificate that provides detailed information on the content of the learning outcomes achieved. It is issued electronically within a secure and trusted SURF platform. Students collect edubadges in their edubadges backpack and can share an edubadge with employers or other educational institutions. Even though the initial experimentation with edubadges took place in the higher education sector, the funding was also allocated for testing edubadges in vocational education and training sector. Micro-credentials are piloted in four VET schools. Two schools (Albeda and mbo Rijnland) issue edubadges to students who did additional work on 21st century skills that were not part of the formal curriculum. It concerned skills such as collaboration and entrepreneurial behaviour. This piloting is in line with a national movement to accredit 21st century skills (in the framework of the KOMPAS21 initiative). In another VET institution, Deltion, they rewarded teachers with micro-credentials for their efforts to work with ICT in their education and especially during COVID-19 times.

7. Lithuania

Vilnius Vocational Training Centre of Technologies (VTMC) is a vocational training institution that has concentrated its efforts and is actively modernizing practical training opportunities through modularisation in order to prepare the most demanded engineering, IT and computer, business and financial, and visual technology specialists for the national and international market. To achieve this goal, the centre actively cooperates with business, developing the form of apprenticeship training, developing IT specialist training initiatives. VTMC is licensed to provide 49 formal vocational education programs in secondary education, continuing vocational education (adult education) and of course initial vocational education. Currently, training is provided in three departments of the Center: Energy and Mechatronics, Transport and Business, Information and Visual Technology. More than 700 students study in these departments every year and they are taught by 54 vocational teachers and 22 subject teachers.

8. Finland

Two Finnish Schools of Professional Teacher Education together with VET provider Omnia joined forces to create a competence-based professional development programme (PDP) that would support teachers in building working life ICT skills and knowledge. The co-created Learning Online PDP is a gamified, open badge-based course.

1.3.3. Private providers

Private companies are investing in learning and training offers, from a number of perspectives, whether as employers to support upskilling and reskilling of staff or as providers of micro-credentials to compete in and respond to demand. The most recently available data from Eurostat showed that in 2015, 70,5 % of companies provided C-VET to their employees. Close to 60% of these training companies assessed the outcomes of C-VET activities (e.g. through certification after written or practical test, satisfaction survey among participants, assessment of participants' behaviour or performance in relation to training objectives, assessment/measurement of the impact of training on performance within the organisation). However, less than a third of the training companies (30,5 % in 2015) used certification after written or practical test. Data also show that the vast majority of job-related non-formal education and training activities are sponsored by employers: in 2016 the rate of adults in the EU28 participating in non-formal job-related activities sponsored by the employer was 32%, while in the same year the participation rate in non-formal job-related activities not sponsored by employers was 3.9%⁵¹. The breakdown of providers of non-formal education and training for adults according to the hours spent by participants clearly reflects the short and targeted nature of non-formal training offered by employers.

Technology companies are very active in this field thanks to their experience with offering certified trainings for technicians of their own technologies and have continued to develop their own training and certification ecosystems and emerged as alternatives to traditional education and training.

Case Study 5: Private providers of micro-credentials

1. **Ernst & Young's (EY) inhouse apprenticeship programme is among the successful initiatives in the UK.** They have a micro-credential style targeted skills development programme leading to greater workplace performance. They advertise their Business Academy programme as an alternative route to a university degree. It provides on-the job experience along with business skills sessions, work shadowing and networking
2. **Capgemini Nederland** is a global company specialised in digital transformation, consulting, and IT services. They provide learning experience both to internal (e.g. employees) and external (e.g. clients) audiences. Capgemini recently launched a new internal digital learning hub called 'NEXT', designed to support the upskilling needs of its employees around the world. Capgemini has partnerships with global brands such as Google, Harvard Spark, Pluralsight, ServiceNow, MuleSoft, Adobe, Azure, and TED.
3. The **Innovations for Apprenticeship Foundation (FIPA)**, was initiated by private companies in France in October 2016 to develop and test innovations relating to apprenticeships. The 17 member companies, including EDF, Enedis, Engie, GRDF, Total, Orano, SNCF, Thales, Veolia, Orange, BNP Paribas, Airfrance, Societe Generale, Saint-Gobain, the Adecco Group among others, together

⁵¹ Eurostat, EU Adult Education Survey, online data table: [trng_aes_122]

represent 47,000 work-study students. The apprentices programme serves as alternative vocational training offered by private companies which focuses on professional reorientation, development of digital skills and promotion of employees during their career (FIPA, 2021).

4. As part of its 'Engage 2025' strategy, **Orange, the French multinational telecommunications** company plans to invest over €1.5 billion to train 100% of its employees in key digital and soft skills by 2025. One of its major skills training initiatives include Orange Campus, an online school offering courses on topics such as data/AI, cybersecurity, management and soft skills. Courses are built along the company's business line expertise and digital platforms and designed with major partners. They provide both basic and advanced modules resulting in specialised expertise and leading to certification or diplomas. With the goal of addressing the digital skills gap in Europe and building a pool of talented workforce, Orange Campus also trains external audiences. To this end, the company has partnered with Microsoft AI school, along with Simplon and the Grande Ecole du Numérique to deliver work related skills training.

5. **Ireland: Recognition of micro-credentials in Industry**

SkillNet Ireland, the Irish agency that supports businesses through enterprise-led workforce development, published a Roadmap on Micro-Credentials in 2020. The publication highlighted that micro-credentials provide a unique mechanism to recognise and develop work-based learning. The roadmap also signalled the position of business and business support agencies as key actors in the Micro-Credential eco-system and supporting industry-focused applied learning.

The roadmap also emphasises the importance of a multi-stakeholder approach with engagement from national agencies, industry, education and training providers, and employer and skill development networks.

The roadmap outlines mechanisms to engage on micro-credentials in work-based learning across sectors including:

- awareness building and collaboration amongst stakeholders, including establishing a national steering group with a broad range of stakeholders and working to build understanding of the potential of micro-credentials
- capability and competency mapping within organisations, which involves mapping of current continuous professional developed (CPD) provision within Skillnet organisations to help recognise where Micro-Credentials might support a more agile, flexible and stackable approach to training and professional development.
- the funding and piloting of scalable and rapid models of validation and assessment of work-based learning in key sectors, based on of co-design, co-development and co-delivery of micro-credentials.

6. **Micro-credential initiatives by Google.** In 2020, Google announced that it would remove the requirement for job applicants to have higher education degrees, and launched a range of

professional training qualifications that it would treat as equivalent to a degree in its recruitment processes for certain roles. These “Google Career Certificates” are accessible through a Coursera subscription, take approximately six months to complete and are in areas of high employer demand, such as IT Support, Project Management, Data Analytics and UX Design.

The career certificates are provided on a not-for-profit basis, and scholarships are available to support access for disadvantaged students. Over half of those pursuing the Google IT Support Professional Certificate do not have a degree. Students are also able to access free resources for career coaching and mock interviews while studying, and following graduation they will be included in a special candidate pool that is visible to the consortium of employers participating in the initiative with Google.

Following the 2020 launch of Google Career Certificates in the United States, the program was launched in the United Kingdom in May 2021, as a joint initiative with the Department of Work and Pensions.

Google also offers a number of other micro-credentials related to its education software tools and technologies, such as Google Workspace for Education. Its range of teacher training micro-credentials allow teachers using the software to become certified Google for Education Trainers, Innovators or Coaches, on completion of a number of training modules.

Source: OECD 2021 innovations in Micro-Credential Development – Who, What and Where?⁵²

1.4. Potential benefits of Micro-credentials

One of the stated objectives of the European approach to micro-credentials is to deliver on the potential of micro-credentials to support employability and lifelong learning. Lifelong learning refers to ‘all learning activity undertaken throughout life, with the aim of improving knowledge, skills/competences and/or qualifications for personal, social and/or professional reasons’⁵³. Employability refers to ‘a combination of factors (such as job-specific skills and soft skills) which enable individuals to progress towards or enter into employment, stay in employment and progress during their careers’⁵⁴.

Within these broad areas, micro-credentials can support the diversification and tailoring of learning opportunities to support individual learning pathways, they can be used to widen access to education and training to a more diverse range of learners, they can support employability and careers, as well as

⁵² OECD (2021), “Micro-credential innovations in higher education: Who, What and Why?”, OECD Education Policy Perspectives, No. 39, OECD Publishing, Paris, https://www.oecd-ilibrary.org/education/micro-credential-innovations-in-higher-education_f14ef041-en

⁵³ Taken from Cedefop Glossary: <https://www.cedefop.europa.eu/en/events-and-projects/projects/validation-non-formal-and-informal-learning/european-inventory/european-inventory-glossary#L>

⁵⁴ Taken from Cedefop Skills Panorama Glossary: <https://skillspanorama.cedefop.europa.eu/en/glossary/e>

facilitate recognition and understanding of skills developed in non-formal and informal settings, and stimulate inclusivity in a manner that is both sustainable and equitable across Europe.

These benefits and others are highlighted in the table below:




		
Learner/Employee	Employer/Company	Educator/University
<ul style="list-style-type: none"> • New possibilities for re-skilling and up-skilling • Credit-bearing CPD pathways • Lower costs of study • More flexible learning • Increased personalisation • More up-to-date content • Ability to demonstrate granular competences 	<ul style="list-style-type: none"> • New CPD option • Assist recruitment • Address widening skills gaps • More fit for purpose professional learning • Enhance collaboration with universities • Improve employee retention 	<ul style="list-style-type: none"> • New business model • Expanding outreach • Greater collaboration with industry • Innovation in digital and online learning • Improve quality of course design • Marketing tool for new students

Figure 10: Overview of Stakeholder Benefits

Source : (2021). *The global micro-credential landscape: Charting a new credential ecology for lifelong learning.*⁵⁵

Participation in lifelong learning is associated with positive social outcomes, such as improved health, enhanced social inclusion³⁹ thus contributing to the well-being of society. An effective culture of lifelong learning can only be achieved by making learning more attractive and more accessible and the cross-section of stakeholders and actors involved in learning and employment have a role to play in developing this culture.

Micro-credentials can enable flexible, personalised, relevant and on-demand learning that complements and supplements traditional education and training and equips people with the knowledge, skills and competences to adapt to life and work in an evolving society. Micro-credentials have the potential to increase personalised learning opportunities for all. Micro-credentials are at the service of the full educational and professional development of individuals. Micro-credentials can be designed to expose learners of all ages to an area of study or employment and be used to demonstrate their commitment to learning and growing in a field. They can help widen learning opportunities; strengthen the role of higher

⁵⁵ Brown, M., Nic Giolla Mhichíl, M., Beirne, E., & Mac Lochlainn, C. (2021). The global micro-credential landscape: Charting a new credential ecology for lifelong learning. *Journal for Learning Development*, 8 (2), 228-254.

education and VET institutions; and engage employers, social partners and non-formal learning providers, in promoting lifelong learning through more flexible and modular learning opportunities.

An ETF survey⁵⁶ of education, training and labour market stakeholders from non-EU countries (primarily ETF members) identified the following benefits of micro-credentials:

- *Micro-credentials have immediate relevance to the labour market demand* (linked to specific skills/ competences; address a specific work need; responsive to changes in the labour market; enable quick access to work; bridge the gap between formal education qualifications and specific industry or workplace requirements);
- *Micro-credentials support individual learning* (focused on specific learner needs; learners can progress at their own pace; an easy way to accumulating learning in small pieces; stackable towards a qualification; facilitating access to formal education);
- *Micro-credentials have standalone value* (MC is a meaningful part of a qualification or a complementary/ supplementary award that can have a meaning at the labour market; adding value to formal education qualification);
- *Micro-credentials facilitate recognition of individual's skills, knowledge and competences* (facilitating formalization and portability of individual's skills and competences; improving the visibility of lifelong learning; facilitate recognition of learning achievements acquired outside formal education; allow to represent mastery/ more advanced skill level; digital visibility);
- *Micro-credentials facilitate the design of flexible training* (less efforts to design; allow to learn on demand as and when one needs);
- *Micro-credentials are cost and time saving* (short duration of learning; affordable for those paying for themselves).

Flexibility

Learning leading to micro-credentials offer flexible options that fit into an active life that can be accommodated, and indeed supported, within working life and can help to overcome contextual barriers and socio-demographic factors that influence learners' decisions to undertake and successfully complete learning (e.g. costs, family obligations, geographic location, differences in learning cultures, labour market conditions, and language). According to the 4 stakeholder group surveys, conducted as part of Cedefop's ongoing study [on micro-credentials role in facilitating learning for employment](#), respondents representing employers (73%) identified flexibility as the most important benefit of micro-credentials

⁵⁶ The survey was open until 7 July 2021 at <https://ec.europa.eu/eusurvey/runner/ETFMicrocredentialSurvey2021>

being more suited for upskilling and reskilling of employees. Respondents representing employees indicated the relevance of their content to the labour market needs (48.5%) and the fast response to the needs of employers (42.4%) as most important.

Inclusion

Micro-credentials can also be used as part of targeted measures to support inclusion and accessibility to education and training to a wider range of learners, including vulnerable groups (such as people with disabilities, low-qualified/skilled persons, minorities, people with migrant background and people with fewer opportunities because of their geographical location and/or their social-economically disadvantaged situation). Relevant, accessible and well-designed offers of micro-credentials could offer those usually excluded from traditional learning pathway into education and training, the labour market and society to grow in it.

Micro-credentials could be used to support improved access for learners who do not have the resources or time to commit to a full time education and training. Micro-credentials can also be used as part of targeted measures to tackle gender stereotypes and other forms of discrimination, to ease transition from secondary to tertiary education, and offer training opportunities to new types of learners. The Rome Ministerial communiqué adopted in November 2020 by the 49 European Higher Education Area (EHEA) countries, identified micro-credentials as a conduit for “creating a supportive environment...that enables higher education institutions to tailor education provision to the needs of different types of learners (lifelong learners, part-time learners, learners from under-represented and disadvantaged groups) and to build a culture for equity and inclusion”⁵⁷.

The Commission action does not claim or represent micro-credentials as an alternative or single solution to issues of inclusiveness, lifelong learning or employability. There is a risk that micro-credentials may perpetuate and even deepen existing inequities of access to upskilling and reskilling if they are not integrated in a holistic, inclusive way across education, training and labour market systems. Evidence from the OECD shows that micro-credentials do not yet serve as a tool to improve representation in traditional higher education⁵⁸:

⁵⁷ EHEA (2020), Rome Ministerial Communiqué, European Higher Education Area (EHEA).

⁵⁸ Shapiro Futures, H., Andersen, T., & Nedergaard Larsen, K. (2020). A European approach to micro-credentials: Background paper for the first meeting of the consultation group on micro-credentials. Policy Paper, European Commission. Available at <https://ec.europa.eu/education/sites/default/files/document-library-docs/european-approach-micro-credentials-higher-education-consultation-group-output-annex-1.pdf>

“One of the main challenges of existing higher education micro-credentials is that they are taken up in greater numbers by learners who have already achieved higher education, have greater financial resources and access to better support systems. In Europe, evidence suggests that short non-degree learning programmes offered by higher education institutions are rarely targeted at supporting increased participation in higher education, with the notable exception of the Nordic countries. Yet, well-designed micro-credential policies have considerable potential to lead to more equitable higher education participation, and could support improved outcomes for learners.”

Micro-credentials should be used to complement and enhance associated policies and actions support lifelong learning and employability so that learners from all groups of society can access their benefits. Micro-credentials should be seen as complementary, and indeed supplemental, to existing education, training as well as being valid and valuable stand-alone units of learning themselves. Traditional credentials remain a cornerstone for learning and employability however they can be complemented and supplemented by micro-credentials enabling lifelong learning. Micro-credentials also need an environment that guarantees their proper understanding and recognition so that they can produce their desired effects.

Case study 6: micro-credentials to support refugees’ access to higher education

Kiron Open Higher Education (Kiron) is a Germany-based non-profit edtech organization promoting the use of digital solutions in higher education to enable free access to higher education and successful learning for refugees worldwide.

Integrating refugees into higher education systems has emerged as a new challenge. Kiron, a non-profit edtech organisation founded in 2015, promotes the use of digital solutions in higher education to enable access to higher education and successful learning for refugees worldwide. In order to overcome the barriers refugees face, they can start studying with Kiron regardless of their asylum status, mobility restrictions, their knowledge of the language in their host country or high tuition fees of universities by participating in a free online study program based on Massive Open Online Courses (MOOCs). After providing a document that proves a refugee or asylum seeker status, they can register and start their studies on Kiron’s learning platform Kiron Campus. Students enrol in one of five study tracks or benefit from preparatory courses to refresh their basic skills, and receive support through a range of additional services with the ultimate aim to transfer to a regular offline study program at one of Kiron’s partner universities with Kiron credits recognised. Students can receive a maximum of 60 ECTS credits (equivalent to a workload of one full-time study year) in case they enrol in Kiron’s partner universities.

The extent to which institutions will offer micro-credentials depends on the available sources of funding to invest in their development. Governments can further support the development and uptake of micro-

credential programmes by providing targeted funding to institutions and learners and providing financial incentives to employers.

Case study 7: Strategic funding in Ireland dedicated to the development of micro-credentials and the Multi-Campus Micro-Credentials

The Irish Ministry for Further and Higher Education, Research, Innovation and Science has announced in October 2020 the award of over €30 million in free and subsidised higher education places under the Jobs Stimulus package to help get people back to work, upskill workers and build economic confidence while continuing to manage the impact of COVID-19. The funding will support the provision of 11,597 places on short, modular courses together with an additional 2,555 postgraduate places.

The 2,555 postgraduate places are on 207 existing courses in 23 public and private higher education institutions. The places are available on courses in a wide range of skills areas, including Data Analytics, Environmental Sciences, Engineering, Tourism and Hospitality, ICT & Health and welfare including Medical Technology.

Modular courses are short and focused and offered in a flexible manner, allowing people to gain important skills without taking a considerable period away from the labour market.

Each module is stand-alone so that participants can gain skills and put them into practice immediately in the workplace, but modules are also accredited in such a way as to provide building blocks to a full qualification should the student so wish.

These 538 modular courses across a broad range of subjects in 32 higher education institutions, represent a new route into lifelong learning, and provide upskilling and reskilling opportunities for those who need it, while ensuring that they remain close to the labour market.

Ireland is also providing strategic funding dedicated to the development of a national approach to micro-credentials including the MC2 initiative, among other institutional micro-credentialing initiatives funded through the Irish Government's Human Capital Initiative:

In 2020, the IUA was awarded a five years grant of €12.3 million from the Human Capital Initiative (HCI) to establish a Multi-Campus Micro-Credentials (MC2) system. The MC2 project involves a consortium of 7 Irish Universities led by Irish Universities Association (IUA) and has 4 key deliverable strands:

Strand 1: Development of a National Framework for micro-credentials.

Strand 2: Creation of a dynamic and sustainable model of enterprise engagement for micro-credentials.

Strand 3: Design and development of a digital Discovery Platform for accredited micro-credentials, linked to a digital credentialing solution. The on-line portal will drive awareness of, and support learner access to

micro-credentials and stacked micro-credential pathways.

Strand 4: Agilely developed and flexibly delivered suite of micro-credentials across the partner universities.

2. Problem Definition

The overview of provision of micro-credentials described in the preceding section portrays a rapidly growing, diverse landscape of providers and approaches. There are many open questions and the general acceptance and use of micro-credentials is not yet established which limits their potential to support flexible learning and career pathways. Currently, there is an absence of transparent standards for quality and no common definition for micro-credentials which creates uncertainty about the value, quality, recognition, transparency and portability of micro-credentials. This section elaborates these issues and highlights the real need for shared meaning and mechanisms to promote trust in micro-credentials.

2.1. Lack of definition

Despite increasing global interest in micro-credentials, the lack of a shared definition is currently perceived as the most substantial barrier to further development and uptake of micro-credentials⁵⁹.

The status of micro-credentials is unclear in many countries as they are positioned as being alternative or supplementary to traditional qualifications such as degrees and the term is poorly understood amongst educators, employers and the public. There is no global consensus on the use or meaning of the term ‘micro-credential’ (Brown, et al., 2021) partly because the field is still rapidly evolving and subject to constant change as new initiatives and priorities emerge. As noted by the OECD⁶⁰:

Despite an increasing volume of these new credentials, great uncertainty persists. Definitions and taxonomies to structure these new credentials have not been widely agreed. The extent of their offer remains uncertain, evidence of their impacts is scant, and the response of governments to these new offerings has not been systematically documented.

(Kato, Galán-Muros & Weko, 2020, p.7)

The fact that there is no established shared or common definition for micro-credentials is a critical issue for the positioning of micro-credentials including their design, implementation and perceived value by learners and stakeholders.

⁵⁹ Shapiro Futures, H., Andersen, T., & Nedergaard Larsen, K. (2020). A European approach to micro-credentials: Background paper for the first meeting of the consultation group on micro-credentials. Policy Paper, European Commission. Available at <https://ec.europa.eu/education/sites/default/files/document-library-docs/european-approach-micro-credentials-higher-education-consultation-group-output-annex-1.pdf>

⁶⁰ Kato, S., Galán-Muros, V., & Weko, T. (2020). The emergence of alternative credentials. OECD Education Working Papers, No. 216, OECD Publishing, Paris. Available from <https://doi.org/10.1787/b741f39e-en>

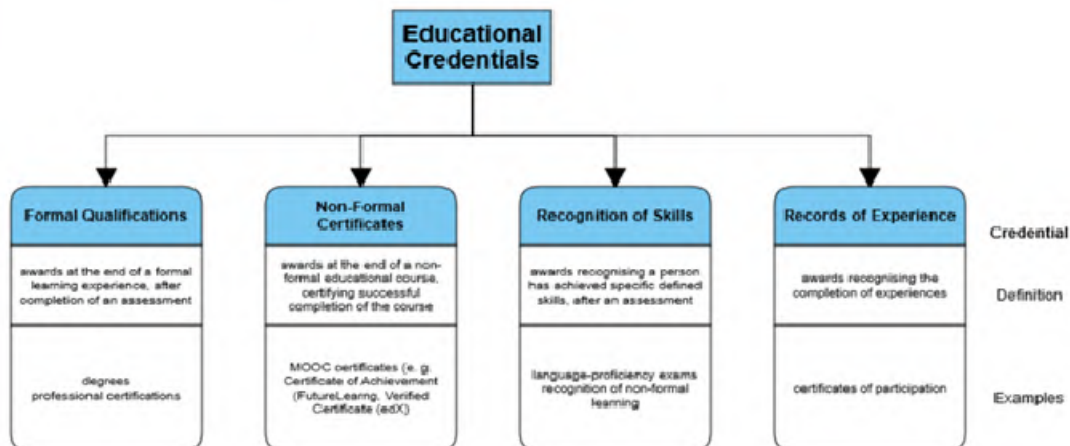


Figure 11: Types of Educational Credentials.⁶¹

Several other labels and descriptors are commonly used in the literature instead of (or interchangeably) with the term micro-credential (e.g., digital badges, open badges, online certificates, alternative credentials, nano-degrees, micro-masters, modular qualifications). The conflation in some publications between the concept of a micro-credential and an open digital badge adds to this confusion and gave rise to methodological challenges in the research design.

Particular conceptual issues arise in differentiating and understanding the relationship between micro-credentials and traditional qualifications. Formal qualifications, such as degrees and diplomas issued by higher education institutions or VET institutions, have been a key feature of the credentials landscape for centuries. Such qualifications are sometimes referred to in the literature as macro-credentials. These qualifications are issued securely by an accredited institution, and traditionally on paper, parchment or digital formats. They are obtained over extended periods of time following the successful completion of a course or programme, usually by aggregating grades and ratings obtained in response to assessment tasks in components with different names (such as courses, units or subjects)⁶².

⁶¹ Camilleri, A., & Rampelt, F. (2018). Concept Paper on Quality Assurance of Credentials. Project deliverable, OEPass project (ERASMUS+). Available at https://oepass.eu/wp-content/uploads/sites/22/2019/03/OEPass_O1A1-report_v5.pdf

⁶² Oliver, B. (2016). Better 21C Credentials: Evaluating the promise, perils and disruptive potential of digital credentials. Research Report, Deakin University. Available at <https://www.deakinco.com/media-centre/white-papers/better-21c-credentials-from-deakin-universitys-professor-beverley-oliver>

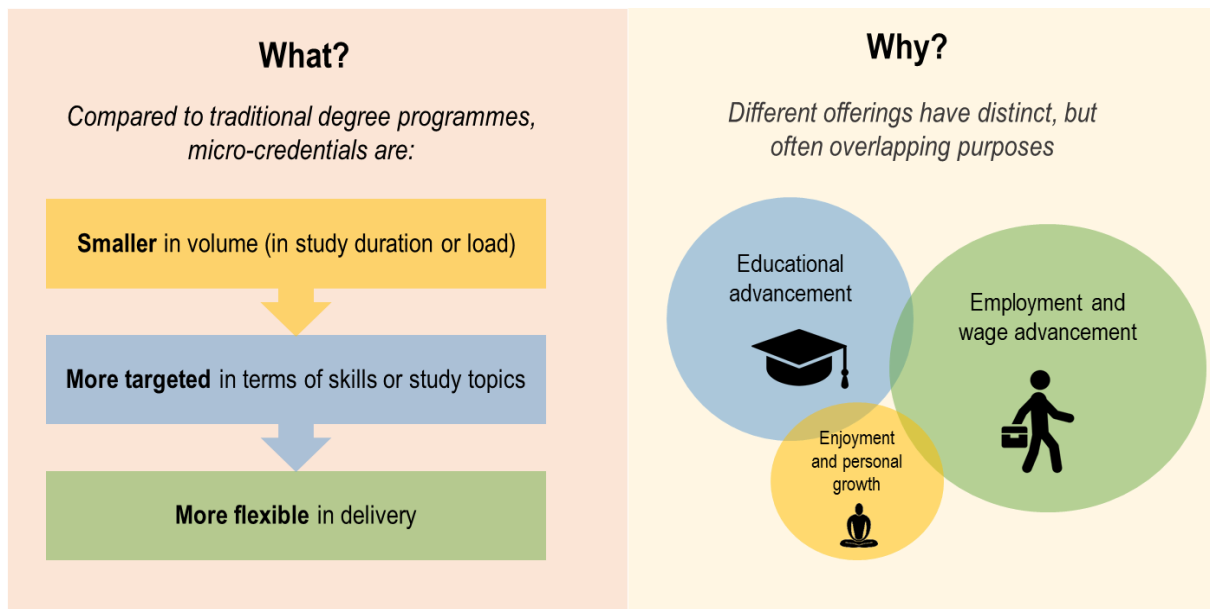


Figure 12: Micro-credentials, What-Why

Source : OECD (2021), *Micro-credential innovations in higher education: Who, What and Why?*⁶³

Internationally, the definition of micro-credentials varies significantly depending on who is using the term and in what context. Nevertheless, while definitions may diverge, common factors can be found such as being smaller in volume, more targeted and more flexible than traditional credentials as seen in the sample of definitions included below:

Source	Definition
State University of New York	Micro-credentials verify, validate, and attest that specific skills and/or competencies have been achieved. They differ from traditional degrees and certificates in that they are generally offered in shorter or more flexible timespans and tend to be more narrowly focused.
New Zealand Qualifications Authority	A micro-credential certifies achievement of a coherent set of skills and knowledge; and is specified by a statement of purpose, learning outcomes, and strong evidence of need by industry, employers, iwi and/or the community. They are smaller than a qualification and focus on skill development opportunities not currently catered for in the regulated tertiary education system.

⁶³ OECD (2021), “Micro-credential innovations in higher education: Who, What and Why?”, OECD Education Policy Perspectives, No. 39, OECD Publishing, Paris, https://www.oecd-ilibrary.org/education/micro-credential-innovations-in-higher-education_f14ef041-en

EUA	A micro-credential is a small volume of learning certified by a credential.
MicroHE Consortium	Sub-unit of a credential or credentials that could accumulate into a larger credential or be part of a portfolio. Examples are: Verified Certificates, Digital Badges, MicroMasters, and Nanodegrees
The International Council for Open and Distance Education	A credential issued for a relatively small learning project that consists of several modules in a given subject
Digital promise	Micro-credentials provide competency-based recognition for the skills educators learn in both formal and informal settings.”
Bloomboard	Micro-credentials are a form of micro-certification earned by proving competence in one specific skill at a time, via a portfolio of evidence, created through classroom practice.
QS	A micro-credential is a sector-endorsed short course that provides the recipient with specialist skills.

Figure 13: selected definitions of micro-credentials⁶⁴

Source: OECD (2021), Micro-credential innovations in higher education: Who, What and Why?

Further common characteristics are captured in the graphic below:

⁶⁴ OECD (2021), “Micro-credential innovations in higher education: Who, What and Why?”, OECD Education Policy Perspectives, No. 39, OECD Publishing, Paris, https://www.oecd-ilibrary.org/education/micro-credential-innovations-in-higher-education_f14ef041-en

In brief: Micro-credentials now

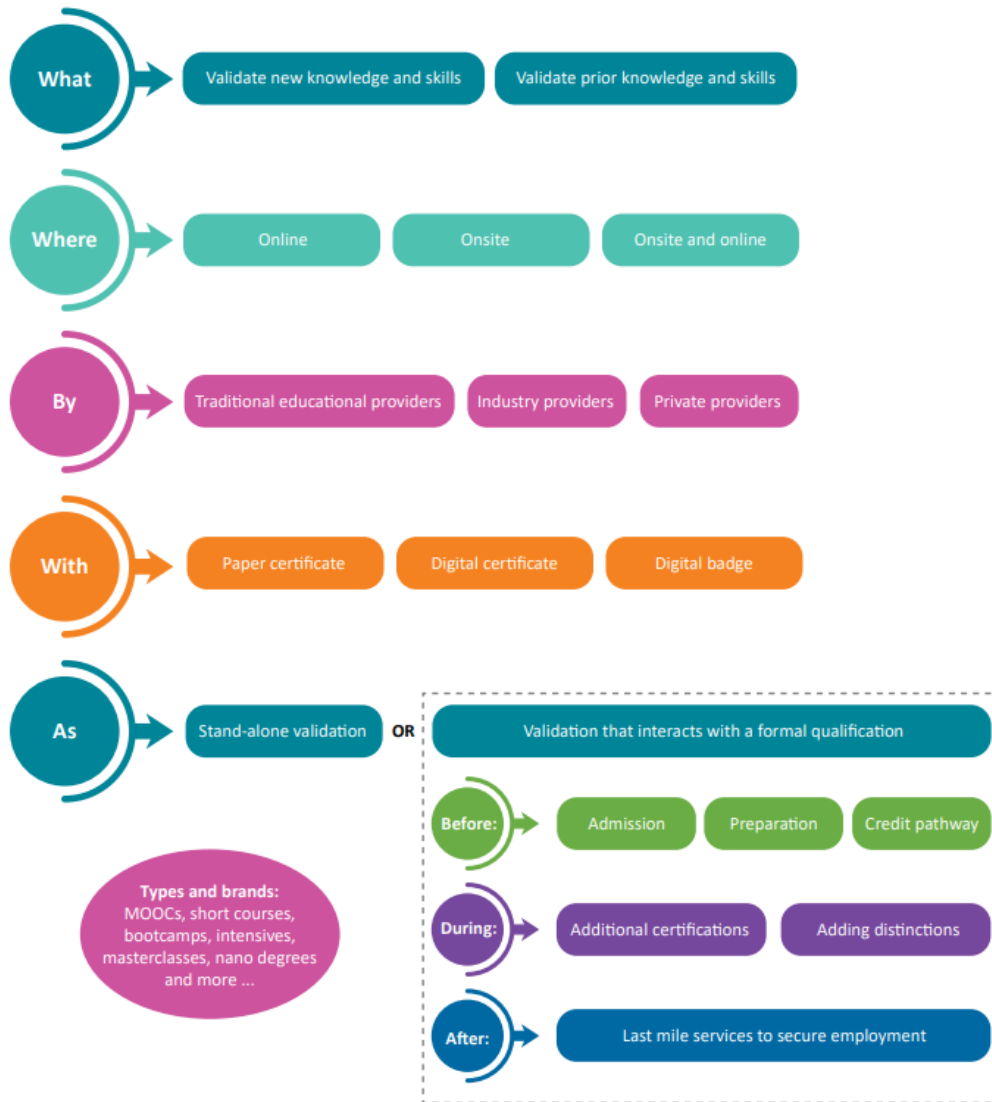


Figure 14: In brief: Micro-credentials now

Source: Oliver, B. (2019) *Making micro-credentials work: for learners, employers and providers*, Deakin University⁶⁵

⁶⁵ Oliver, B. (2019). Making micro-credentials work for learners, employers and providers. Deakin University. Available from <https://dteach.deakin.edu.au/wp-content/uploads/sites/103/2019/08/Making-micro-credentials-work-Oliver-Deakin-2019-full-report.pdf>

In the face of this reality, clarifying what is meant by a micro-credential is critical. Importantly, many of these so-called alternative or supplementary credentials which might meet the definition of a micro-credential can serve different purposes, are awarded by different types of organisations, are based on different standards or professional frameworks, and come under different quality assurance processes. The variation and open questions on the definition of micro-credentials within these different contexts mirrors and contributes to the current challenges and barriers to the further development and adoption of micro-credentials, including a lack of trust, lack of transparency and lack of uptake as elaborated in the following sections.

2.2. Lack of trust

Despite the growing number of diverse alternative credentials, and enthusiasm among learners and stakeholders, the lack of common understanding leads to a general lack of trust in micro-credentials and the associated learning outcomes. There are increasing concerns about micro-credentials due to the lack of a commonly agreed definition (discussed above in 3.1) and employers, learners and education and training institutions alike lack information and certainty on the reliability, quality and authenticity of micro-credentials emerging from diverse providers. Preliminary findings from the ongoing Cedefop study [on micro-credentials role in facilitating learning for employment](#) found a high percentage of distrust in micro-credentials among national authorities, VET providers, employer and employee organisations due to the fact that micro-credentials are a new, unknown form of credential and there is uncertainty of the added value, recognition and use of micro-credentials.

A key consideration for the European approach to micro-credentials is to identify the policy measures and actions necessary to help individuals, education and training providers, employers and policy-makers to trust micro-credentials. The establishment of standards is key to facilitating individuals, education and training providers, employers and policy-makers to understand the value of micro-credentials and their contribution to lifelong learning, mobility and employability in a European labour market context.

Ensuring employers' trust in the value of micro-credentials is a key policy challenge. Their potential for supporting end-users needs to be further explored, as does the extent to which they are prominent in vocational education and training (VET) and work-based learning. Cedefop's ongoing study [on micro-credentials role in facilitating learning for employment](#) found that employers most trust micro-credentials that lead to nationally recognised qualifications (87,5%). Nevertheless, the same study found that despite the perceived lack of trust in micro-credentials, organisations representing employees somewhat agree (50%) that employees in their sectors would benefit from a wider uptake of micro-credentials for training and continuous professional development.

2.3. Lack of transparency

The diversity of formats and providers of micro-credentials limits the ability of learners, employers and education and training institutions to engage with and understand micro-credentials. There are no

commonly used approaches, reference tools or guidance available to understand the nature and content of micro-credential and the possibility to share and authenticate micro-credentials easily.

There is no single or shared approach to describing key elements including the learning achievements, the workload to earn the micro-credential, the status of the awarding body, the form of assessment, or the type of quality underpinning the micro-credential. This situation immediately limits the possibility to recognise and understand micro-credentials in an effective and efficient way; and the portability, validation and stacking of micro-credentials between and within countries, education and training sectors, and on the labour market is seriously inhibited. This situation will deter employers, education and training institutions and other recipients of micro-credentials from accepting and processing micro-credentials due to the perceived extra workload required to understand the micro-credentials. As such, micro-credentials are not yet standardised to be a currency in the labour market or education and training systems. Consequently, learners will not be motivated or incentivised to complete micro-credentials (see Lack of Uptake below in 3.4). Some publications have advocated for the creation of National Qualification Frameworks⁶⁶ or the accommodation of micro-credentials within the same⁶⁷ however there are differing views as to whether including micro-credentials in NQFs and qualifications systems is compatible with the need to ensure the flexibility and responsiveness of micro-credentials.

A further important consideration for transparency of micro-credentials is a perceived lack of digital solutions for issuing, storing, sharing and authentication micro-credentials in a secure way. Technological solutions are key to enabling the portability and potential to ‘stack’ micro-credentials. There are numerous established and emerging technological solutions including Blockchain, electronic wallets, open badges and digital credential systems which can be potentially leveraged to support portability of micro-credentials. These systems are already being explored within education, training and labour market systems, including for traditional qualifications. There are numerous open questions on the feasibility and use of technology and also an inherent risk that if Member States, providers and other stakeholders begin to use differing technological solutions and technical standards this will in fact limit the portability and easy exchange of information on micro-credentials (an issue which already exists in the case of traditional qualifications).

A further issue is that micro-credentials are not identified in data collection at EU or other levels, including educational attainment surveys, labour force or other surveys meaning there is currently limited data on the impact and economic and social benefits of micro-credentials. Future analysis of learner impact needs to consider both the individual and longer-term societal benefits of micro-credentials but of course this dependent on there being a coherent, shared understanding of micro-credentials that can be incorporated within data collection, skills intelligence analysis and research.

⁶⁶ Usher, A. (2021). Micro-credentials in Ontario. Higher Education Strategy Associates. 28th April. Available from <https://higherstrategy.com/micro-credentials-in-ontario/>

⁶⁷ Nic Giolla Mhichíl, M., Brown, M., Beirne, E. & Mac Lochlainn, C. (2020). A micro-credential roadmap: Currency, cohesion and consistency. Dublin City University. Dublin. Available at <https://www.skillnetireland.ie/publication/a-micro-credential-roadmap-currency-cohesion-and-consistency/>

As micro-credentials become more prolific and widespread, there will be a need to collect better information, in a standard format will enable better research and analysis. Ensuring that information about micro-credentials is transparent and informative will build trust among learners and employers and facilitate the uptake of micro-credentials.

2.4. Lack of uptake

The combined effect of the issues described above regarding definition, trust and transparency mean that while there has been notable, enthusiastic interest in micro-credentials there is not yet wide and inclusive acceptance, awareness and uptake of micro-credentials by learners⁶⁸. There are uncertainties about the value and benefits of micro-credentials for their personal and professional lives and learners need to be better informed about the availability and nature of micro-credentials. Learners are not likely to sign up for new and relatively unknown credential unless they can reasonably expect a return on investment in the form of higher pay, greater job mobility, etc. But if employers don't understand a new credential, they won't reward it. The lack of understanding by employers of the value of micro-credentials may therefore discourage learners from taking up micro-credentials. The European approach to micro-credentials should work to address this awareness gap and deliver on the full potential of micro-credentials to meet the needs of people.

Future uptake of micro-credentials will also be dependent on availability of information and guidance on micro-credentials and their outcomes. Information and guidance on identifying and selecting micro-credentials, including information on possible outcomes, will need to be incorporated within lifelong guidance services that help people with their career and learning choices. This should include university career centres, public employment services (PES), private employment services, social services and other guidance services for employment, self-employment, education and training, and coaching to meet the needs of widest possible learner groups, including from the most vulnerable groups.

The recently published OECD report *Micro-credential innovations in higher education: Who, What and Why?* exposes that “In most countries, learners do not yet have a trusted source of public information that permits them to compare systematically the key features of micro-credentials offered by higher education institutions (or, indeed, other providers)”. The publication cites examples in the United States of a voluntary and foundation-supported initiative, called Credential Engine, has sought to build a credential registry “to house information about all credentials, a common description language to enable credential comparability, and a platform to support customized applications to search and retrieve information about credentials”⁶⁹ and an initiative in Australia to create a one-stop-shop online marketplace for micro-credentials to provide a nationally consistent platform to help students compare among micro-credentials using common criteria such as course outcomes, duration, mode of delivery and credit point value.

⁶⁸ Kato, S., Galán-Muros, V., & Weko, T. (2020). The emergence of alternative credentials. OECD Education Working Papers, No. 216, OECD Publishing, Paris. Available from <https://doi.org/10.1787/b741f39e-en>.

⁶⁹ Credential Engine (2021), Credential Engine Schemas Handbook, <https://credreg.net/ctdl/handbook>

The same OECD report reflects on aspects of information that could potentially be of use to learners, when making decisions on choosing micro-credentials, as well as stakeholders. It may not be feasible to systematically gather information about labour market outcomes associated with the acquisition of micro-credentials but other means of assessing the value of the micro-credential such as a public rating system (from verified learners) could provide worthwhile information to people considering options. Learners may be best placed to report on their perceived value and experiences with using the micro-credential in the labour market or for further education.

Information on micro-credentials must be presented in a more dynamic form than traditional catalogues of learning, which might only be updated in line with academic cycles, to support learners looking to plan their career and next steps. High-quality public information portals on micro-credentials will need effective and efficient ways of collecting and aggregating data from providers.

3. Available feedback from target and open consultations on the envisaged measures

This chapter presents an outline of the consultation strategy and a synopsis of key findings from the Open Public Consultation (OPC) and targeted stakeholder events that took place in the context of the wider Stakeholder Consultation Strategy.

3.1. Outline of the consultation strategy

The European Commission's Consultation Strategy consisted of three main activities: collection of feedback on the Roadmap, followed by an Open public Consultation and a number of targeted stakeholder events involving all important stakeholder groups.

From 19 February to 19 March 2021, the European Commission collected feedback on its Roadmap. The Roadmap aimed to inform citizens and stakeholders about the Commission's ongoing work on micro-credentials, in order to receive their feedback and participation in future consultation activities. The Roadmap described the issue, objectives to be met, why EU action is needed, and the main features of the Consultation Strategy. Citizens and stakeholders were invited to provide views on the Commission's understanding of the problem and possible solutions, and also to contribute any relevant information they may have. Feedback was collected via the European Commission's dedicated website.

A 12-week Open Public Consultation on micro-credentials was launched on 20 April 2021, through which stakeholders and the general public were consulted on the scope of the proposed European approach to micro-credentials initiative and were able to provide feedback using an interactive survey questionnaire. This questionnaire was made available on the Have Your Say portal of the European commission. Responses were collected until the formal closing date on 13 July 2021. In total, 508 respondents completed the survey, and 92 additional documents were uploaded.

After collecting initial feedback from experts in the field, targeted consultations events were conducted from the second half of 2020 to summer of 2021 to ensure the participation of all interested stakeholders and citizens. In addition to gathering perspectives on the scope of the proposed European approach to micro-credentials, the OPC and targeted stakeholder events sought to inform and gather the views of Member States (MS), the public and other stakeholders on the working definition of micro-credentials and set of core elements of European standards around the main building blocks of the initiative.

3.2. Analysis of results across different consultation activities

The European Commission started consultations in 2020 in order to gather stakeholders' views on a European approach to micro-credentials. The consultations carried out so far in 2020 and 2021 aimed at achieving a working definition of micro-credentials and a set of core elements of European standards around the main building blocks of the initiative, mainly: quality assurance, recognition, the possibility to combine (or stack) micro-credentials, links to national qualifications frameworks, storage and portability.

This chapter presents a synopsis of key findings from feedback provided on the Commission's Roadmap, Open Public Consultation (OPC) and targeted stakeholder events that took place in the context of the wider Stakeholder Consultation Strategy. The stakeholder feedback referenced in this report will contribute to the drafting of the proposal for a Council Recommendation on micro-credentials.

3.2.1. Consultation Strategy and Activities

The European Commission's Consultation Strategy consisted of three main activities: collection of feedback on the Roadmap, followed by an OPC and a number of targeted stakeholder events involving all important stakeholder groups. Below we present a summary of each activity, their objectives, methodology and any deviations from the initial plans and / or timeline.

3.2.2. Roadmap

From 19 February to 19 March 2021, the European Commission collected feedback on its Roadmap. The Roadmap aimed to inform citizens and stakeholders about the Commission's ongoing work on micro-credentials, in order to receive their feedback and encourage participation in future consultation activities. The Roadmap described the issue, objectives to be met, why EU action is needed, and the main features of the Consultation Strategy. Citizens and stakeholders were invited to provide views on the Commission's understanding of the problem and possible solutions, and also to contribute any relevant information they may have. Feedback was collected via the European Commission's dedicated website.

3.2.3. Open Public Consultation

The European Commission initiated the 12-week OPC on micro-credentials on 20 April 2021, through which stakeholders and the general public were consulted on the scope of the proposed European approach to micro-credentials initiative and were able to provide feedback using an interactive survey questionnaire. This questionnaire was made available on the *Have Your Say* portal of the European commission. Responses were collected until the formal closing date on 13 July 2021. In total, 508 respondents completed the survey, and 92 additional documents were uploaded.

3.2.4. Targeted stakeholder events

After collecting initial feedback from experts in the field, targeted consultations events were conducted from the second half of 2020 to summer of 2021 to ensure the participation of all interested stakeholders and citizens. In addition to gathering perspectives on the scope of the proposed European approach to micro-credentials, the OPC and targeted stakeholder events sought to inform and gather the views of Member States (MS), the public and other stakeholders aiming to achieve a working definition of micro-credentials and a set of core elements of European standards around the main building blocks of the initiative.

3.2.5. Reach of the Stakeholder Consultation Strategy

Overall, a wide range of stakeholders were reached and consulted through the three consultation activities described above. Table 1 below provides an illustration of the stakeholder landscape, indicating the groups reached by each consultation channel. Overall, all intended stakeholder categories were reached through at least one of the consultation channels.

	Intended audiences for Stakeholder Consultation Strategy
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Consultation activity	Education and training providers	National Qualification Authorities, qualification assurance agencies, and qualification recognition	Social partners	Industry/business	Public employment services	Chambers of Commerce, Industry and Craft	International organisations	Governments	NGOs	Organisations representing regional, local and municipal authorities	Citizens/general public
Roadmap	✓		✓	✓	✓		✓		✓		✓
Open Public Consultation	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Targeted stakeholder events	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Table 1. Stakeholder landscape

The Stakeholder Consultation Strategy also managed to achieve a significant geographical reach, engaging with stakeholders from across the EU and beyond. Respondents to the Roadmap originated from 12 countries in Europe, with over a third hailing from Belgium. The OPC respondents represented 43 countries in total, including all Member States except Luxembourg. Italy was the most common country of origin of OPC respondents followed by Belgium, Hungary and Spain. Respondents from third countries mainly originated from the United Kingdom.

3.3. Findings

This section provides a synopsis of the findings from feedback provided on the OPC and the targeted stakeholder events.

3.3.1. Open Public Consultation and targeted stakeholder consultation events

Based on survey responses and position papers submitted through the OPC and the feedback from the targeted stakeholder events, as a whole the relevant stakeholders welcomed the European Commission's efforts on micro-credentials. Some concerns were expressed about potential disruption in national education systems.

3.3.1.1. Views on the working definition of micro-credentials proposed by the European Commission

Working Definition:

A micro-credential is a proof of the learning outcomes that a learner has acquired following a short learning experience. These learning outcomes have been assessed against transparent standards.

The proof is contained in a certified document that lists the name of the holder, the achieved learning outcomes, the assessment method, the awarding body and, where applicable, the qualifications framework level and the credits gained. Micro-credentials are owned by the learner, can be shared, are portable and may be combined into larger credentials or qualifications. They are underpinned by quality assurance following agreed standards.

In general, the working definition of micro-credentials was welcomed by all stakeholders, many of whom highlighted its important role in providing clarity on micro-credentials and related concepts and paving the way for a harmonised European approach. According to the OPC respondents⁷⁰ the essential elements of the working definition on micro-credentials were:

- “focus on learning outcomes”;
- “assessment of learning outcomes against transparent standards”;
- “proof of learning contained in a certified document” ; and

⁷⁰ Only respondents to the OPC in their professional capacity (188, any other categories than those who replied to the OPC in their personal capacity as EU or non-EU citizen, learner, staff of education and training organisations in personal capacity, worker, job-seeker) were asked to feedback on the elements of the working definition of the European Commission.

- “underpinning by quality assurance”.

Details on the views on the working definition across all stakeholder groups in the OPC are presented in the tables below. The first summarises the percentage of respondents per stakeholder category who considered a certain element of the working definition as “essential”, whereas the second shows combined responses stating an element should be considered “essential” or “recommended” for the EU working definition on micro-credentials. The colour scale highlights the stakeholder groups which were the most numerous in blue and in red those who were the least numerous to consider this element as essential or recommended, based on the responses to the OPC.

Element of the working definition	All respondents	Academic / research institutions	Business (company / association)	Public authorities	NGOs (including consumer and environmental)	Trade unions
Focus on learning outcomes	82%	79%	73%	76%	88%	96%
Assessment of learning outcomes against transparent standards	80%	85%	70%	80%	74%	96%
Proof of learning contained in a certified document	73%	79%	48%	80%	74%	87%
Underpinning by quality assurance	69%	68%	53%	64%	74%	91%
Portability across Europe	47%	62%	38%	28%	74%	13%
Credits or other expression of workload	45%	53%	30%	60%	50%	30%
Possibility to combine micro-credentials into larger credentials or qualifications	41%	53%	30%	40%	43%	30%
Focus on the short learning experience	32%	35%	30%	48%	36%	9%

Inclusion in a qualifications framework	30%	38%	28%	16%	38%	4%
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N: All respondents=188; Academia=34; Business=40; Public authorities=25; NGOs=42; Trade union=23

Table 2. Percentage of OPC respondents who considered a given element “ESSENTIAL” in the context of the working definition, per stakeholder group

Element of the working definition	All respondents	Academic / research institutions	Business (company / association)	Public authorities	NGOs (including consumer and environmental)	Trade unions
Focus on learning outcomes	98%	100%	93%	100%	100%	100%
Assessment of learning outcomes against transparent standards	96%	100%	95%	92%	95%	100%
Proof of learning contained in a certified document	91%	94%	80%	96%	93%	96%
Underpinning by quality assurance	97%	100%	90%	96%	100%	100%
Portability across Europe	82%	94%	78%	76%	98%	39%
Credits or other expression of workload	78%	88%	58%	92%	93%	52%
Possibility to combine micro-credentials into larger credentials or qualifications	79%	85%	68%	92%	88%	48%
Focus on the short learning experience	82%	88%	88%	92%	95%	26%

Inclusion in a qualifications framework	69%	85%	55%	56%	83%	30%
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N: All respondents=188; Academia=34; Business=40; Public authorities=25; NGOs=42; Trade union=23

Table 3. Percentage of OPC respondents who considered a given element “ESSENTIAL” or “RECOMMENDED” in the context of the working definition, per stakeholder group

The level of flexibility in the definition was subject to more discussion. While Member States, universities and employers preferred keeping the definition flexible to leave room for experimentation, other stakeholders such as the European Qualifications Framework Advisory Group (EQF AG) disagreed calling for as little room for interpretation as possible.

Though stakeholders have called for different inclusions to the definition, a common observation has been propositions for alternatives to the term ‘short’ used in the definition to describe the scope micro-credentials. Alternative suggestions included ‘small’ from government bodies and education bodies, while national agencies suggested the word ‘micro’. Governments also emphasised that the definition should not restrict the scope of micro-credentials to higher education (HE) and so stated that the notion of duration and theoretical workload should be removed.

Most stakeholders agreed on the importance of quality assurance as one of the key elements of the definition to aid the clarification and scope of micro-credentials. However, while employers, employees, Member States, academic bodies and NGOs called for this inclusion, the commercial industry were less supportive as only half considered underpinning micro-credentials by quality assurance as an essential element of the definition. This is unsurprising however as findings show that each stakeholder group valued different aspects as important elements for the definition, as shown in the table above which provides a visual representation of the variances in views between stakeholder groups.

3.3.1.2. Views on the standard elements

The standard elements proposed by the European Commission were well received by the majority of OPC respondents, who considered each standard as either essential or recommended, as shown in the table below.

Standard element	Essential	Recommended
Identification of the holder of the micro-credential	458	41
Title of the micro-credential	441	58

Date of issuing	392	95
Awarding body	389	100
Learning outcomes	344	127
Quality assurance of the credential	316	159
Country/Region of the issuer	263	171
Level (and cycle, if applicable) of the learning experience	262	186
Notional workload needed to achieve the learning outcomes	250	188
Quality assurance of the learning content	250	178
Supervision and identity verification during assessment	203	178
Type of assessment	195	186
Integration and stackability options	176	220
Grade achieved	165	169
Form of participation in the learning activity	131	200

Table 4. Number of OPC respondents who considered a given element “ESSENTIAL” in the context of EU standard options to characterise micro-credentials, n=508

A detailed overview of the stakeholder groups’ opinions on the elements which should be included in EU standard options to characterise micro-credentials under a European approach is presented in table below, based on the OPC responses. The colour scale highlights the stakeholder groups which considered each element as an essential feature of micro-credentials in the context of a European approach (in blue) and those who were the least numerous to consider this element as essential, based on the responses to the OPC.

Element of the micro-credential	All respondents	EU citizens	Academic/research institution	Business (company/association)	Public authorities	NGOs (including environmental)	Trade unions
Identification of the holder of the	90%	90%	94%	88%	92%	86%	100%

Element of the micro-credential	All respondents	EU citizens	Academic/research institution	Business (company/association)	Public authorities	NGOs (including environmental)	Trade unions
micro-credential							
Title of the micro-credential	87%	83%	88%	88%	100%	93%	100%
Date of issuing	77%	75%	79%	83%	88%	79%	96%
Awarding body	77%	73%	85%	80%	84%	76%	87%
Learning outcomes	68%	58%	74%	73%	92%	76%	83%
Quality assurance of the credential	62%	61%	65%	50%	100%	67%	91%
Country/Region of the issuer	52%	40%	59%	68%	80%	50%	83%
Level (and cycle, if applicable) of the learning experience	52%	49%	59%	25%	52%	52%	74%
Notional workload needed to achieve the learning outcomes	49%	47%	62%	33%	52%	60%	65%
Quality assurance of the learning content	49%	52%	35%	45%	56%	57%	91%
Supervision and identity verification during assessment	40%	48%	44%	33%	20%	36%	83%
Type of assessment	38%	32%	47%	45%	28%	43%	83%
Integration and stackability options	35%	33%	38%	20%	24%	26%	65%
Grade achieved	32%	31%	29%	23%	24%	26%	65%
Form of participation in the learning activity	26%	22%	24%	25%	12%	31%	65%

N: All respondents=508; EU citizens replying in personal capacity= 168;Academia=34; Business=40; Public authorities=25; NGOs=42; Trade union=23

Table 5. Percentage of OPC respondents who considered a given element “ESSENTIAL” in the context of EU standard options to characterise micro-credentials, per stakeholder group

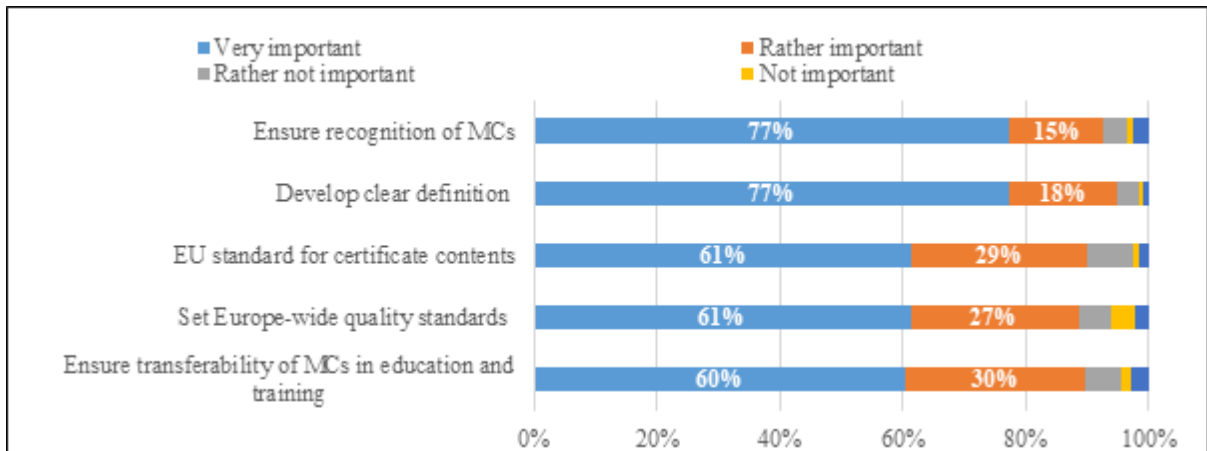
The OPC respondents provided a few suggestions for additional standard elements of micro-credentials which could be included in a European approach. As a form of added verifiability, several recommended introducing a validity period of a micro-credential, a European online repository for issued certificates, unique code to validate the issuer, blockchain verification, and external control body that would supervise micro-credentials on a European level. Concerning the clarity and transparency, others suggested including a short description of a context in which a micro-credential was awarded, specifically what a learner had to do to earn that competence or another evidence of learning or achievement.

Views on EU-level actions and measures

All views on this topic were shared during the OPC. The majority of respondents expressed very similar views in relation to the role of the EU in facilitating the uptake of micro-credentials, as shown in the figure overleaf. Ensuring harmonisation of micro-credentials at EU-level was considered the primary role of the EU, especially ensuring their recognition and providing a clear definition. It should be noted that including information on workload was seen as the least important task for the EU.

Additional actions suggested by respondents included:

- The use of existing technological tools to prevent reinventing the wheel – reference was made to platforms such as Badgecraft.eu and the Open Badge initiative.
- Providing various financial subsidies to promote the use of micro-credentials; providing funding to support the co-construction of micro-credentials with industry, professional bodies, NGOs and stakeholders; as well as seed funding for pilot projects and ongoing funding for the costs of maintaining systems and records for learners.
- Encouraging the involvement of private sector and employers and considering the needs of said actors; and considering what the market wants (demand pull) while relaxing what HEI and VET providers want to deliver (supply push).



Targeted dissemination and awareness raising on micro-credentials for potential beneficiaries. This would involve providing clear information and signposting to all citizens about the opportunities available. This was considered paramount by those respondents.

Figure 15. EU-level actions and measures which facilitate the take-up of micro-credentials, top 5 options (n=508)

3.3.1.3. Views on micro-credentials' link to labour market and employability

All consulted stakeholder categories highlighted the ability of micro-credentials to address current and future labour market needs, through the up- and reskilling of adults in response to the green and digital transition. In the OPC, business associations strongly advised that micro-credentials should be designed with labour market needs in mind, to ensure they are able to narrow the skills gaps. The French government argued for the explicit exclusion of regulated professions from a potential European approach to micro-credentials. Private companies identified specific sectors that would benefit from increased human resources due to labour shortage, which included the social services sector and agricultural sector. The Joint ETCU–ETUCE (2020) position statement on micro-credentials⁷¹ statement expressed serious concerns that micro-credentials may be harmful to acquiring and recognising full qualifications. In many respects, the position paper supports a European-wide approach to micro-credentials where they are complementary to full qualifications, quality assured and accredited in accordance with the European Qualifications Framework (EQF) and national qualification frameworks⁷². However, the paper emphasised the importance of engagement with employers and employees and also noted that current employment contracts usually only recognise and reward employees who attain formal macro credentials (such as full degrees).

⁷¹ Available at: <https://www.csee-etuice.org/en/resources/statements/3908-joint-etuc-etuice-position-on-micro-credentials-in-vet-and-tertiary-education-june-2020>

⁷² Brown, M., Nic Giolla Mhichíl, M., Beirne, E., & Mac Lochlainn, C. (2021). The global micro-credential landscape: Charting a new credential ecology for lifelong learning. *Journal for Learning Development*

Social Partners Hearing

A dedicated Social Partners hearing on micro-credentials was held on 15 April 2021. Partners stressed the potential usefulness of micro-credentials for upskilling and reskilling people, the importance of social partners' involvement in their development and of respecting national systems and practices. They also highlighted that micro-credentials should complement and not replace formal qualifications and the importance of quality assurance.

Workers stated that micro-credentials should be linked to paid training leave and that special attention should be paid to inclusiveness (reaching out to low-skilled people), equal access and work-life balance. They asked for social partners' involvement in the regulation of private courses to avoid the risk of frauds.

Employers asked to avoid over-formalisation that would reduce flexibility, which is a key feature of micro-credentials, and to leave providers the choice of whether or not to adopt the EU standards. They also asked for a link with Europass.

3.3.1.4. Views on education and training systems

Generally, there was consensus among stakeholders that micro-credentials should not replace education and training but should be complimentary. From views shared during the Consultation, it was evident that micro-credentials were seen by some stakeholders to be a threat to the reputation and value ascribed to formal education and qualifications, hence the desire for clear separation between the two. Some business sectors called for restricting certain professions to formal qualifications only and ensuring the inability to build qualifications through a collection of micro-credentials. Some employers were more relaxed in their approach but still called for a clear differentiation between micro-credentials, HE and VET, to ensure micro-credentials did not disrupt existing systems. These views highlight the fact that there is ambiguity as to how to incorporate micro-credentials into the existing education ecosystem and their relationship to traditional degrees. VET providers called for a separation between formal education and micro-credentials to ensure that they are not treated as a short-term solution to systematic failures perpetuating inequality.

In addition to differentiation and distinction, balance may also be needed as proposed during the targeted consultations by the European Qualifications Framework Advisory Group (EQF AG). They highlighted the need for balance between micro-credentials and formal education and training, recognising the role they both play in the education system, with micro-credentials offering different curricula from formal education. A further addition to this view is the argument by Members of the European Parliament (MEPs) that though micro-credentials should not replace formal qualifications, they should be compatible with it to avoid further segmentation of education and training.

3.3.1.5. Views on barriers to lifelong learning and inclusiveness

It is argued that micro-credentials may have the potential to increase inclusiveness through better access to education, and could address some of the barriers for adults who seek learning after finishing formal education and training to upgrade their knowledge, skills and competences in a rapidly changing society and labour market. The great majority of the OPC respondents (70%) viewed “lack of time” as the main reason why the participation of adults in training is low, followed by the “lack of support from employers” and the “uncertainty about whether training will be recognised by any employer” (all around 40%).

Overall, findings across all the consultation channels indicate that micro-credentials bear both opportunities and risks regarding inclusiveness that need to be navigated. Generally, stakeholders identified the ability of micro-credentials to widen pathways and access to education and employment for disadvantaged and underrepresented groups such as migrants and refugees, people living with disabilities, low-wage workers, and older populations especially in light of the COVID-19 pandemic. However, caution was raised with the pursuit for inclusivity through micro-credentials. In addition, stakeholders argued the need for separation between boosting innovation and filling skills gaps in the work field, and the goal of realising more inclusive education, as they do not necessarily require the same conditions. Nonetheless, the importance of addressing inequality was flagged by International Organisations such as UNESCO. Trade unions further buttressed the need to prioritise access and inclusion especially in relation to monetary cost as more private profit-oriented companies were becoming micro-credentials providers. In line with this, some trade unions have called the free provision of micro-credentials at Higher Education Institutes (HEIs) for both students and external learners. Another useful consideration was also flagged by the EESC who noted that besides cost, motivation to attend micro-credentials needed to be addressed to ensure inclusivity. They encouraged the use of outreach activities at local and regional level.

3.3.1.6. Views on recognition and portability

All stakeholder categories noted the value in the recognition and portability of micro-credentials and ensuring their quality using transparent standards. A majority of OPC survey respondents viewed recognition as one of the most important characteristics of a high-quality micro-credential, either by employers (81%), education and training organisations (74%) or national authorities (72%). However, there was division among all stakeholder groups on how this should be achieved.

Recognition: Quality assurance (QA)

Across all stakeholder categories and consultation activities, QA was identified as essential in the setting up of European standards and establishment of trust in micro-credentials. However, there were differing views on whether pre-existing QA tools should be used, or new ones should be developed, and how these tools should be applied.

While some National authorities expressed their preference for QA for micro-credentials using pre-existing tools such as European Standards and Guidelines (ESG) and quality agencies listed in European Quality Assurance Register (EQAR) for HE. National authorities argued against mandatory embedding micro-credentials into the existing National Quality Framework (NQF) /European Quality Frameworks

(EQF). Though, some within the commercial industry were in alignment with these governments, all commercial stakeholders agreed that ultimately each provider should decide the extent to which it applies European standards under the micro-credentials initiative. Such flexibility may be needed as although some HE stakeholders agreed with the use of NQF and EQF frameworks to QA micro-credentials, arguing that it aided classification and reduced the administrative burdens on HEIs, others argued that these frameworks may be too limiting.

National authorities and commercial industry agreed with the prioritisation of micro-credentials' flexibility, warning against excessively burdensome processes. In alignment with this perspective, during the targeted consultations, employers also warned against over-formalising the process. However, the need to combine speed and flexibility in the QA process was noted by business associations. In terms of how flexibility could be ensured, academic institutions argued that the key was the adoption of a decentralised approach to quality assurance and governance, which would also reduce the burden on institutions. In agreement with this view, most civil society groups and some academic institutions stated that there were benefits to specific sectors developing their own quality systems. While civil society groups generally called for those working closest with beneficiaries to be involved in the development of QA guidelines some voices from the same stakeholder group called for QA to lie with an independent body that could ensure standardisation across micro-credentials.

Some HE professionals and regulators such as ENIC-NARIC emphasised the importance of ensuring transparency, as more private micro-credentials providers enter the market. On this basis, they advised on the application of the Bologna process to micro-credentials as a transparency and QA tool. According to the Bologna process, the responsibility of QA lies with education providers. However, some business providers called for a slightly hybrid approach, encouraging cooperation between HEIs who could offer a QA system and private providers who could offer practical experience. This idea of cooperation between HEIs and commercial providers echoes the ideas shared in Section 3.2.2 on employability.

Recognition: Trusted providers

Another potential solution to ensuring QA in micro-credentials was certifying quality by focusing on the providers of micro-credentials as opposed to the programmes themselves. International organisations such as OECD and business associations were supporters of this approach, specifically OECD who suggested using a combination of traditional QA and community/platform-based ("trip advisor"-style) QA to ensure that even small private MC providers are quality-checked. Some members of the academic sector agreed with this alternative QA focus, however, their proposed method was the development of a European register of trusted issuers and mutual recognition as they found that even in academia, trust in micro-credentials was still an issue. Further progressing this idea, project groups such as Microbol recommended during the targeted consultations that being listed in the register should become a de-facto 'label' of adherence to the ESG and the European framework for micro-credentials. In their view, the Database of the European Quality Assurance Register (DEQAR) could be used while at national and regional level, existing registers might be extended, or specific ones could be created. An alternative view was held by MS, who argued that rather than focusing on providers, QA should focus on learning

outcomes and aligning itself with the pre-existing EQF tool which specifies courses' learning outcomes across eight levels.

As a final note for this section, a key concern raised was the fact that recognition of micro-credentials may be affected as some NQFs do not permit the inclusion of non-formal qualifications. The Commission was encouraged to explicitly name and recognise non-formal education and its significance.

Portability

The value of portability for micro-credentials was also acknowledged among all the stakeholders across all consultation activities, though there was division on the medium that should be used. Both Europass and Digital Badges were considered as adequate tools by the stakeholders. It should be noted that regardless of the portability medium chosen, progressive digitalisation would be required, and this was noted by stakeholders. Less popular alternative options proposed included the Entrepreneurial Skills Pass (ESP) for micro-credentials. However, though digital badges for micro-credentials were clearly popular, some education bodies did not agree with this approach out of concerns that there both would be conflated. They argued that micro-credentials should be clearly distinguished from badges as their functions are different, and validation of learning outcomes should only be used in cases where a formal credential is absent or does not provide enough reliable evidence on the learning outcomes.

Transferability was also a big theme in the portability discussion. Generally, there was agreement that micro-credentials should be transferrable, across different sectors which could also involve stackability, adding an international dimension to an individual's portfolio. Government representatives, academic institutions and student unions, saw the linking of micro-credentials to existing quality frameworks as essential in order to ensure their stackability into fully-fledged programmes.

3.4. Conclusions

This chapter has provided a synopsis of the key findings from the Stakeholder Consultation Strategy's activities organised by the Commission on its upcoming non-legislative initiative on micro-credentials, which will define a European approach on micro-credentials. Overall, across all stakeholder categories there is significant support for the development of a European approach on micro-credentials and the establishment of common defined standards underlying this approach. However, as expected given the diversity of the stakeholders and potential beneficiaries concerned by the topic, there are competing interests and perspectives in relation to a variety of aspects of a European initiative on micro-credentials i.e. the working definition, quality assurance and flexibility, and the role of micro-credentials. Nonetheless, though concerns and reservations have been flagged by the various stakeholders involved in the process, useful suggestions and perspectives were captured, which informed the process and its success.

4. Objectives of the proposal

The Commission proposal for a Council Recommendation on micro-credentials for lifelong learning and employability aims to:

- Enable individuals to acquire the knowledge, skills and competences they need to thrive in the evolving labour market and society, to benefit fully from a socially fair recovery and the just transitions to the green and digital economy;
- Support the preparedness of providers of micro-credentials to enhance the transparency and flexibility of the learning offer in order to empower individuals to forge personalised learning and career pathways;
- Foster inclusiveness and equal opportunities, and contribute to the achievement of resilience, social fairness and prosperity for all, in a context of demographic change and throughout all economic cycles.

To achieve these objectives, the proposal establishes a European approach recommending to Member States to:

- Apply a common EU definition, standard elements to describe micro-credentials, and key principles for design and issuance of micro-credentials;
- Develop the eco-system for micro-credentials, and;
- Deliver on the potential micro-credentials to support lifelong learning and employability.

Section 7.2 below describes how these building blocks will support the development and use of micro-credentials in a coherent way among the Member States, stakeholders, and the different providers (from education and training institutions to private companies) across different sectors and fields. This will facilitate the quality, transparency, recognition, relevance, assessment, stackability, portability, role of learners, authenticity and role of information and guidance within the European Education Area and labour markets. It will thus contribute to a lifelong learning culture and increase the employability of people.

In general, the Commission proposal for a Council Recommendation on micro-credentials for lifelong learning and employability will contribute to implementing Principle 1 of the European Pillar of Social Rights by widening learning opportunities for all and facilitating more flexible learning pathways throughout life and Principle 4 supporting the right to timely and tailor-made assistance to improve employment or self-employment prospects, including the right to receive support for training and re-qualification.

Micro-credentials can be used within education, training, lifelong learning and employability ecosystems to support upskilling and reskilling. The proposal does not suggest that micro-credentials should replace traditional qualifications or substitute existing national processes to organise education and training or employment or labour markets, including any support processes for vulnerable groups.

The combined functional elements and proposed recommendations address key aspects of micro-credentials including: quality, transparency, recognition, relevance, assessment, stackability, portability, role of learners, authenticity and role of information and guidance.

The proposal aims to support the ongoing work by Member States, stakeholders and diverse groups of providers across the EU on micro-credentials. The proposal offers key resources and guidance for those providers, and those interested in exploring micro-credentials, to support the quality, transparency and uptake of micro-credentials. The proposal does not aim at establishing new administrative processes or obligations nor aim at establishing new governance mechanisms, but rather to build on and adapt where necessary the existing provisions (e.g. in terms of quality assurance and recognition processes) at national and institutional levels.

The proposal offers a common basis for Member States, and stakeholders and the Commission to develop and use micro-credentials in a consistent and coherent way that delivers on their potential to support lifelong learning and employability, while still respecting and building on the diverse contexts and systems in which they operate.

Implementation will be underpinned through existing EU tools that support the needs of individuals and organisations, including Europass and the European Digital Credentials for Learning to support portability and authenticity of micro-credentials; and the European Student Card initiative which will allow students to share the outcomes of micro-credentials electronically and in a secure way with other education and training institutions.

Finally, EU funding programmes and instruments will contribute to facilitating the uptake of short learning experiences leading to micro-credentials.

5. EU added value

The global micro-credential landscape is currently disconnected across national and sectoral boundaries. More clarity is expected to arise as governments, higher education and vocational institutions, non-formal providers and industry partners work together to harness new shared models. It is important that a common approach is adopted, thus avoiding multiple interpretations of what micro-credentials are and differing approaches in how micro-credentials relate to National Qualification Frameworks (NQFs), national qualification systems, training systems, labour market systems and current certificates and diplomas.

Valuable lessons can be drawn from the positioning of micro-credentials in other countries and regions with federal structures. For example, Australia has yet to incorporate micro-credentials in the Australian Qualification Framework (AQF) but by not doing so it is potentially perpetuating a barrier to a more coherent and consistent approach likely to help better establish the status and currency of such credentials. While Canada is very active in the area of micro-credentials, the federated approach to higher education

and absence of a National Qualification Framework and funding is no doubt contributing to what appears to be relatively fragmented growth.

The positioning of micro-credentials in Europe is unique. The Commission proposal can leverage achievements in co-operation and development of tools such as the European Qualifications Framework (EQF), the European Credit Transfer System (ECTS), and Europass to support the transparency and understanding of other forms of learning such as micro-credentials. Europe is already in the process of forging a more connected approach to micro-credentials, as evidenced by the development of the Common Micro-credential Framework (CMF) for MOOCs and the collaborative nature of several early pilot initiatives by higher education institutions and Member States (e.g., Surf in the Netherlands⁷³, MC2 in Ireland, and the ECIU University as a transnational collaborative project). The work in 2020 of the European Commission's Higher Education Consultation Group on Micro-credentials to develop a common definition and European-wide approach to the area is unprecedented elsewhere in the world. A European approach to micro-credentials might become a global reference for micro-credentials and result in an increased attractiveness for the offer developed in Europe (as a result of more certainty on the quality and recognition aspects) and increase the reputation of the European Education Area, including towards third-country learners, authorities, providers and other stakeholders. The proposal can further strengthen comparison and recognition of micro-credentials and qualifications between EU and non-EU countries. Supported by ETF, a European approach to micro-credentials could reach out to third countries, in particular to Neighbourhood countries, encouraging increased cooperation in education and training.

“There are many drivers underlying the Micro-Credentialing movement... To have true value, a Micro-Credential must be, above all else, clearly-understood, and serve as a recognised representation of valued qualities, progress and skills, for both employers, and employees”⁷⁴.

The European approach to micro-credentials provides a frame for understanding micro-credentials and a launching pad for delivering on their potential. The European approach to micro-credentials will allow providers to offer courses leading to micro-credentials on a larger scale that are trusted, comparable and recognised as a valuable learning achievement throughout Europe. Micro-credentials can become a known, valued tool for learning: learners will be motivated and reassured to enrol in courses leading to micro-credentials knowing that employers and education and training institutions will recognise and provide opportunities to learners based on these opportunities. The established building blocks (definition, standard elements, and principles) provide a basis for providers in different sectors to confidently develop and use micro-credentials. A diversified approach, with different formats and approaches in different sectors and countries will only intensify the uncertainties and fragmented approach to micro-credentials and limit their potential to be scaled-up and to support up-skilling and re-skilling.

⁷³ <https://www.surf.nl/en>

⁷⁴ Nic Giolla Mhichíl, M., Brown, M., Beirne, E. & Mac Lochlainn, C. (2020). A micro-credential roadmap: Currency, cohesion and consistency. Dublin City University. Dublin. Available at <https://www.skillnetireland.ie/publication/a-micro-credential-roadmap-currency-cohesion-and-consistency/>

6. What instruments are available?

The development of micro-credentials can build on existing EU and European Higher Education Area (EHEA) transparency and quality assurance tools. These are key for the recognition of micro-credentials within and across borders:

- the transparency of qualifications (European Qualifications Framework and the Qualifications Framework of the European Higher Education Area)^{75 76};
- quality assurance in higher education (Standards and Guidelines for Quality Assurance in the European Higher Education Area) and in VET (EQAVET)^{77 78};
- credits for achieved learning (European Credit Transfer and Accumulation System);
- recognition (Lisbon Recognition Convention and the Diploma Supplement, as well as the Council Recommendation on promoting automatic mutual recognition of higher education and upper secondary education and training qualifications and the outcomes of learning periods abroad^{79 80 81};
- recognition of prior learning and validation of non-formal and informal learning⁸²;
- lifelong learning, career management and digitalisation (Europass)⁸³.

These tools and processes can enable micro-credentials to be issued based on quality-assured learning, and that micro-credentials can be issued to the learner following an assessment of learning outcomes. Micro-credentials may be for credit or not for credit, and they may be stacked.

⁷⁵ European Commission, 2017. Council recommendation of 22 May 2017 on the European Qualifications Framework for lifelong learning and repealing the recommendation of the European Parliament and of the Council of 23 April 2008 on the establishment of the European Qualifications Framework.

⁷⁶ EHEA, 2005. The Framework of Qualifications for the European Higher Education Area.

⁷⁷ ENQA, 2012. Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG).

⁷⁸ European Commission, 2020e. Proposal for a Council Recommendation on vocational education and training (VET) for sustainable competitiveness, social fairness and resilience

⁷⁹ The Council of Europe, 1997. Convention on the Recognition of Qualifications concerning Higher Education in the European Region.

⁸⁰ European Commission, 1999. The Diploma supplement.

⁸¹ European Commission, 2018. Council Recommendation of 26 November 2018 on promoting automatic mutual recognition of higher education and upper secondary education and training qualifications and the outcomes of learning periods abroad.

⁸² European Commission, 2012. Council Recommendation of 20 December 2012 on the validation of non-formal and informal learning

⁸³ European Commission, 2018. Decision (EU) 2018/246 of the European Parliament and of the Council of 18 April on a common framework for the provision of better services for skills and qualifications (Europass) and repealing decisions of 2241/2004/EC

In addition to national tools and infrastructure, the European Digital Credentials for Learning can support the issuing, sharing and storage of all forms of learning achievements in a digital format, including micro-credentials, and will link to the European Student Card Initiative⁸⁴.

Enhancement of lifelong learning is also at the core of the strategy for many of the Erasmus+ European Universities alliances. The 41 alliances, involving more than 284 higher education institutions across all parts of Europe, aim at creating European inter-university campuses. They will offer both joint (physical, virtual, blended) courses and common teaching units integrated in the curricula of all the member universities. The development of micro-credentials is a strategic means to enhance partnerships with the surrounding ecosystems. Such initiatives can provide learners of all ages with the opportunity to obtain micro-credentials, awarded after the completion of short courses or modules. The European Universities alliances such as the European Consortium of Innovative Universities (ECIU) and Young Universities of the Future Europe (YUFE), aim at developing micro-credentials at a larger scale so that they can offer more flexible learning pathways, technology-enhanced learning, and more inclusive curricula and pedagogy, both for students and professionals. These networks can act as test beds and pave the way for other higher education institutions to follow.

As such there are tools that can be used to build a European approach ensuring a shared understanding, as well as a transparent and common definition of what micro-credentials are, in order to promote trust in micro-credentials across countries and educational and economic sectors. It is important that a common approach is sought at this point, thus avoiding multiple interpretations of what micro-credentials are and establishing how micro-credentials relate to NQFs, national qualification systems and current certificates and diplomas. This is where the EU can add the most value.

7. Rationale for key elements of the proposal

7.1. A common and transparent definition

A shared and transparent definition of micro-credentials is key to further development and uptake of micro-credentials as a trusted skills currency. In order to be truly shared, a definition must be valid across sectors of education and the world of work, and it must mirror the societal mission of education and training institutions, including higher, VET and non-formal providers as well as employers and labour market actors.

The definition was formulated to encompass key characteristics for the uptake of micro-credentials, which include quality assurance, referencing to qualifications frameworks and the use of credits (where applicable) and measures to ensure portability and stackability.

⁸⁴ EVERIS, 2018. Europass Framework for Digitally Signed Credentials, https://ec.europa.eu/futurium/en/system/files/ged/europass_background-info_framework-digitally-signed-credentials.pdf

The definition submitted to consultation was generally supported by a large majority of the stakeholders, each of its elements being considered by a majority of respondents as an ‘essential’ or ‘recommended’ element for the definition (see 4.3.2.1 above).

Working definition submitted to consultation

A micro-credential is a proof of the learning outcomes that a learner has acquired following a short learning experience. These learning outcomes have been assessed against transparent standards.

The proof is contained in a certified document that lists the name of the holder, the achieved learning outcomes, the assessment method, the awarding body and, where applicable, the qualifications framework level and the credits gained. Micro-credentials are owned by the learner, can be shared, are portable and may be combined into larger credentials or qualifications. They are underpinned by quality assurance following agreed standards.

However, it appeared during the consultation process that certain elements would benefit from being clarified or redefined in order to ensure better mutual understanding.

The extent of learning outcomes is not correlated with a standardised duration of training but varies from one individual to another. This is why it is suggested to free the definition from the notion of duration with a description of micro-credentials as **a small volume of learning** instead as of a short learning experience.

Clarification about the transparent standards referenced in the definition appeared to be necessary as some stakeholders asked where to find them. It was therefore preferred to refer to “clearly defined standards” that are also referred to at the end of the definition as “agreed standards in the relevant sector or area of activity” when it comes to quality assurance. The latter reference to ‘relevant sector or area activity’ acknowledges the diversity of quality assurance processes across sectors.

A sentence was also added to clarify the purpose of micro-credentials “Courses leading to micro-credentials are designed to provide the learner with specific knowledge, skills, competences that respond to societal, personal, cultural or labour market needs.”

Taking into account the support expressed for all the elements of the definition and the need for clarification and adjustments, **the final proposed definition is as follow:**

‘Micro-credential’ means the record of the learning outcomes that a learner has acquired following a small volume of learning. These learning outcomes have been assessed against transparent and clearly defined standards. Courses leading to micro-credentials are designed to provide the learner with specific knowledge, skills, competences that respond to societal, personal, cultural or labour market needs.

Micro-credentials are owned by the learner, can be shared, are portable and may be standalone or combined into larger credentials. They are underpinned by quality assurance following agreed standards in the relevant sector or area of activity.

7.2. EU standard for micro-credentials – a defined list of critical elements to describe micro-credentials

The basis for trust in micro-credentials, similar to qualifications leading to a degree, is transparency in terms of what they represent. This includes information about the learning outcomes achieved and how they were assessed and quality assured. Micro-credentials, and the certificates delivered upon completion should, be clearly identified as such and thus differentiated from a full degree.

There is currently no standardised way of describing micro-credentials⁸⁵. The variability of information makes it difficult for learners, employers, education and training institutions, quality assurance agencies and employers to understand the value and content of micro-credentials and to compare them. The result is a lack of trust and recognition of micro-credentials, whether for further learning purposes or in a labour market context. No matter what type of institution issues micro-credentials, transparency of learning outcomes is crucial for a good understanding of the micro-credential.⁸⁶

This is why a key recommendation is to adopt a common list of critical information elements that any micro-credential must provide. This list of critical information elements would constitute a EU standard on micro-credentials.

Mandatory elements:	Identification of the learner
	Title of the micro-credential
	Country/Region of the issuer
	Awarding body
	Date of issuing
	Learning outcomes
	Notional workload needed to achieve the learning outcomes (in ECTS credits, wherever possible)
	Level (and cycle, if applicable) of the learning experience leading to the micro-credential (EQF, QF-EHEA), if applicable
	Type of assessment
	Form of participation in the learning activity
	Type of quality assurance used to underpin the micro-credential
Optional elements, where relevant (non-	Prerequisites needed to enrol in the learning activity
	Supervision and identity verification during assessment (unsupervised with no

⁸⁵ European Commission. (2020). Final report: A European approach to micro-credentials. Output of the Micro-credentials Higher Education Consultation Group. <https://ec.europa.eu/education/sites/default/files/document-library-docs/european-approach-micro-credentials-higher-education-consultation-group-output-final-report.pdf>

⁸⁶ European Commission. (2020). Final report: A European approach to micro-credentials. Output of the Micro-credentials Higher Education Consultation Group. <https://ec.europa.eu/education/sites/default/files/document-library-docs/european-approach-micro-credentials-higher-education-consultation-group-output-final-report.pdf>

exhaustive list)	identity verification, supervised with no identity verification, supervised online or onsite with identity verification)
	Grade achieved
	Integration/stackability options (standalone, independent micro-credential / integrated, stackable towards another credential)
	Further information

Some stakeholders stressed the need to include an additional category corresponding to the duration of validity of the micro-credential. Although this element may correspond to a real need in certain sectors, certifications of learning outcomes are rarely linked to a notion of duration of validity in the education sector. Such information can nevertheless be included in the ‘further information’ optional element if deemed necessary.

The proposed standard elements will be included in an EU data model that specifies a common format for describing micro-credentials. The data model will be available as an open standard to be used by providers of micro-credentials and will support interoperability and easier exchange of data on micro-credentials.

The Data Model for Micro-credentials will be managed as per the Europass Decision, in particular Article 6 (1)(b); 6(1)(d); and 6(2)(b), which calls on the Commission to develop, test and update open standards. Data models, used as open standards, are free to use, transparent and built based on consensus. The Commission will develop the model in consultation with Member States and stakeholders, in line with user needs and technological advancements, as well as changes in labour markets and in the provision of education and training and must support consistency of information and demonstrates clear added-value. See also the section on Portability.

7.3. EU Principles for design and issuance of micro-credentials

The below principles specify the nature of micro-credentials and offer guidance to Member States, public authorities and providers on the design and issuance of micro-credentials and systems for micro-credentials. The principles are universal and may be applied in any area or sector.

7.3.1. Quality

Micro-credentials are subject to internal and external quality assurance by the system producing them (e.g. the education, training or labour market context in which the micro-credential is developed and delivered). Quality assurance processes must be fit-for-purpose, be clearly documented and accessible and meet the needs and expectations of learners and stakeholders.

Providers: External quality assurance is based primarily on the assessment of providers (rather than individual courses) and the effectiveness of their internal quality assurance procedures.

Providers should make sure that internal quality assurance covers all the following elements:

- the overall quality of the micro-credential itself, based on the standards referred to below
- the quality of the course, where applicable, leading to the micro-credential
- learners' feedback on the learning experience leading to the micro-credential; and
- peers feedback, including other providers and stakeholders, on the learning experience leading to the micro-credential

Standards: External quality assurance is conducted in line with:

- Annex IV of the European qualifications framework Recommendation, where applicable;
- the Standards and Guidelines for Quality Assurance in the European Higher Education Area, where applicable;
- the European quality assurance reference framework (the EQAVET Framework) in the field of vocational education and training, where applicable;
- other quality assurance instruments, including registries and labels, to build public trust in micro-credentials, where applicable.

The quality of micro-credentials is key to establishing trust in micro-credentials, for the learners that earn a micro-credentials and the employers, education and training institutions and others that may seek to understand and recognise micro-credentials. Accordingly, the principle of quality and quality assurance is at the heart of the European approach to micro-credentials. Importantly, the approach does not seek to harmonise quality assurance or establish one single quality assurance for micro-credentials. This would not be feasible or appropriate; micro-credentials can potentially be used across all sectors of society and while quality assurance is essential, the type of quality assurance must be fit-for-purpose and meet the needs, contexts and expectations of learners and stakeholders in each context.

Quality assurance of micro-credentials should be implemented in line with the established practices and needs of the relevant education, training, labour market or other sector. As Member States, stakeholders and institutions begin to explore the use of micro-credentials it may become necessary to adapt existing processes to ensure the responsiveness and flexibility of micro-credentials. To support this the Commission has developed a set of *Principles for the Design and Issuance of Micro-credentials* which can be applied in each setting.

- In the higher education sector, transparency and trust are ensured by quality assurance processes. In line with the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG)⁸⁷, all courses offered by higher education institutions must undergo internal quality assurance by the institution in question. In addition, either each course or the higher education institution itself is required to undergo periodic external quality assurance (e.g. accreditation, audit, review). The ESG

⁸⁷ [Standards and Guidelines for Quality Assurance in the European Higher Education Area \(ESG\)](#)

generally covers quality assurance of micro-credentials issued by higher education institutions⁸⁸. Thus external quality assurance should be conducted in accordance with the ESG in the European Higher Education Area, where applicable.

- Annex IV of the EQF recommendation lists quality principles for qualifications from all sectors, which should be respected for micro-credentials.
- For the purposes of Vocational Education and Training (VET), the Recommendation states that the European Quality Assurance Reference Framework for Vocational Education and Training (EQAVET) should be used for the VET sector, where applicable.

The European Quality Assurance Reference Framework (the EQAVET Framework) is used in national quality assurance systems, for both initial and continuing vocational education and training. For those Member States that wish to explore the potential of micro-credentials as part of continuing VET systems they may use and adapt the EQAVET Framework. The Framework covers vocational education and training in all learning environments (such as school-based provision and work-based learning) and all learning types (digital, face-to-face or blended), delivered by both public and private providers, and is underpinned by a set of indicative descriptors and common reference indicators for quality assurance in vocational education and training applied both at system and provider level, according to national context. For more information on the Framework see Annex II of the Council Recommendation of 24 November 2020 on vocational education and training (VET) for sustainable competitiveness, social fairness and resilience.

The proposal also acknowledges that other quality assurance instruments may be used across the diverse sectors in which micro-credentials can be used and states ‘Other quality assurance instruments developed for the purposes of internal or external quality assurance of micro-credentials should also be used where applicable. Examples of such instruments include ISO 21001 which is a management standard for organisations providing educational products and services meeting the needs and requirements of learners and other customers and, ISO 29993 which specifies requirements for learning services outside formal education, including all types of life-long learning (e.g. vocational training and in-company training, either outsourced or in-house) and the EFQM Excellence model’ from the European Foundation for Quality Management (EFQM), a management framework that supports organisations in managing change and improving performance.

The level at which quality assurance takes place is of key importance. In the higher education sector, it is key to distinguish between programme-based accreditation/external quality assurance and institution-based accreditation/external quality assurance. Different countries follow different systems – some countries have quality assurance systems focused on institutions, while others have quality assurance systems focused on the quality of programmes. In some higher education systems, institutional

⁸⁸ Tück, C., 2019. Quality assuring micro-credential a learner centered approach, <https://microcredentials.eu/digital-credentials-masterclass/>

accreditation or audit standards already explicitly refer to micro-credentials or similar offerings; in other systems, these are only implicitly addressed or not at all. In systems where separate external quality assurance takes place at programme level, accreditation mechanisms for non-degree programmes like MOOCs, short programmes, lifelong learning programmes or different ways of delivery (blended learning, online learning etc.) are, in general, not yet adopted by quality assurance agencies. Very few quality assurance agencies provide specific accreditation or certification processes for non-degree programmes.⁸⁹

Those national approaches to external quality assurance, which are based on programme accreditation, may not be sufficiently responsive to emerging needs. Moreover, the administrative burden of assessing one course as if it were a programme on its own proves challenging i.e. programme accreditation is not scalable to micro-credentials. National or agency regulations may therefore need to be reviewed in order to fully cover micro-credentials within existing quality assurance systems.

Trust in the provider of the credential is a crucial element for trusting the credential itself. This is the reason why external quality assurance of micro-credentials should be encouraged to be based on the assessment of providers (especially in cases where the provider is a higher education institution or a VET organisation), rather than based on the individual course, and/or other criteria depending on national arrangements.

Providers should make sure that internal quality assurance covers the quality of the micro-credential itself, based on the above standards, and the quality of the course, where applicable, leading to the micro-credential. It should also cover the feedback of the learners and the peers on the micro-credential.

An idea put forward during the consultations suggested considering the establishment of a register of trusted providers at a European level, which have in place a documented process for external quality assurance. This approach, if universally adopted for all types of providers, would present the risk of being too restrictive. The European approach to micro-credentials does not seek to harmonise quality assurance or establish one single quality assurance for micro-credentials. This would not be feasible or appropriate; micro-credentials can potentially be used across all sectors of society and while quality is essential, the type of quality mechanisms used must be fit-for-purpose and meet the needs, contexts and expectations of learners and stakeholders in each context.

Instead, the approach recommends that any providers of micro-credentials should ensure that quality processes are in place for their micro-credentials and that they are clearly documented and communicated to learners and stakeholders.

Higher education institutions (HEIs) that are externally quality assured in line with the ESG should be regarded as **trusted providers** of micro-credentials. The DEQAR CONNECT project⁹⁰ aims to ensure

⁸⁹ European Commission. (2020a). Final report: A European approach to micro-credentials. Output of the Micro-credentials Higher Education Consultation Group. <https://ec.europa.eu/education/sites/default/files/document-library-docs/european-approach-micro-credentials-higher-education-consultation-group-output-final-report.pdf>

⁹⁰ <https://www.eqar.eu/deqar-connect/>

that these are listed in the Database for Quality Assurance Results (DEQAR) and promote the digital exchange of information on quality assurance. For other types of providers, another source of inspiration could be a Europass accreditation database of trusted issuers⁹¹. This topic should be further explored with national authorities in charge of qualifications and/or qualifications frameworks and other stakeholders.

The existing criteria and measures for quality assurance could be reviewed in order to take appropriate account of digitalisation in teaching and learning, and to ensure security and transparency for all learner groups.

Regarding blended and online learning, it is important that quality assurance of online learning activities, which are credit-bearing, is extended to cover the virtual learning environment, the pedagogical quality of online provision and the availability of online student support, which are often criticised as lacking when considering online learning⁹².

7.3.2. Transparency

Micro-credentials are measurable, comparable and understandable with clear information on learning outcomes, workload, content, level, and the learning offer, as relevant.

Workload

- Higher education institutions should use the European Credit Transfer and Accumulation System (ECTS) and comply with the principles in Annex V to the EQF Recommendation, wherever possible, to demonstrate the notional workload needed to achieve the learning outcomes of the micro-credential.
- Providers that do not use the ECTS may use other systems or types of information that can effectively describe learning outcomes and workload, in compliance with the principles in Annex V to the EQF Recommendation.

Qualifications framework/systems

- Micro-credentials may be included in national qualifications frameworks/systems, where relevant and in line with national priorities and decisions. National qualifications frameworks/ systems are referenced to the European qualifications framework and, for higher education qualifications, self-certified to the qualifications framework of the European Higher Education Area, which can

⁹¹ Camilleri, A., 2018b. Quality of Credentials in Open Education: Pathways and technologies for recognition, transparency and portability, Portability of Exchange, transparency and recognition aspects.

⁹² Orr, D., Pupinis, M. & Kirdulyte, G., 2020. Towards a European approach for micro-credentials: a study of practices and commonalities in offering micro-credentials in European higher education, s.l.: European Commission, NESET

further support the transparency, and trust in, micro-credentials.

Information on the offer of micro-credentials

Systems for micro-credentials should provide transparent and clear information, to underpin guidance systems for learners, in line with national practices and stakeholders needs:

- Information on providers of micro-credentials should be published in registers, or incorporated into existing registers. Higher-education providers (and other relevant providers) should be included, where possible, in the Database of External Quality Assurance Results (DEQAR), based on quality assurance in line with the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG);
- Information on learning opportunities leading to micro-credentials should be accessible and easily exchanged through relevant platforms, including Europass.

One of the principles of the proposed European approach is to include micro-credentials, where relevant, in national qualifications frameworks and provide the opportunity for non-formal education and training providers to have their provision accredited.

From the perspective of higher education the consultation exercise showed that there is a broad consensus among stakeholders from academic/research institutions that micro-credentials should be included in the existing qualification frameworks like EQF/NQFs and ECTS.

The European Credit Transfer and Accumulation System (ECTS) is a recognised mechanism to make the learning outcomes and the estimated workload of a course visible and stackable. The mechanism is widely used in Europe (by 49 countries within the European Higher Education Area). It has proven to be a suitable mechanism for micro-credentials, as it is based on learning outcomes and makes learning measurable and visible as part of a transparent recognition process. Using ECTS credits as a measure of the volume of micro-credentials is a basic element that allow micro-credentials to be stackable in a transparent way and based on learning outcomes and the workload. This also facilitates the national and international recognition of short courses as independent modules or potentially as part of a full qualification. For this purpose, the 2015 ECTS Users' Guide⁹³ already provides indications on the use of credits for stand-alone modules, but the guide could be complemented by more details on this specific use.

ECTS is currently primarily used within the field of higher education, but its use could be expanded to other sectors, where applicable. Other systems or types of information may also be used which can effectively describe learning outcomes and workload, while respecting the principles of Annex V of the EQF Recommendation⁹⁴.

⁹³ European Commission, 2015. ECTS Users Guide

⁹⁴ [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32017H0615\(01\)](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32017H0615(01))

Two different qualifications frameworks coexist at the European level, with a different purpose: the European Qualifications Framework (EQF) for Lifelong learning as revised in 2017, and the Overarching Framework of Qualifications of the European Higher Education Area (QF-EHEA)⁹⁵. These two frameworks are entirely compatible with each other and have provided a translation tool to make national qualifications easier to understand and compare⁹⁶ and thus enable the creation of the conditions for mutual trust.

The European Qualifications Framework for Lifelong Learning (EQF) is a reference framework for all levels and types of qualifications. It is a key tool to support the understanding and comparison of all types of learning, including micro-credentials. The EQF is based on 8 levels of descriptors for learning outcomes (formulated as knowledge, skills and responsibility & autonomy) which can be applied to the design and awarding of smaller units of learning just as it is used for larger qualifications. Member States can include micro-credentials in their national qualification frameworks, and as such these micro-credentials can already be related to an EQF level.

The EQF already provides a basis for the inclusion of micro-credentials if Member States wish to include these in their national qualification frameworks⁹⁷. Furthermore, the EQF is comprehensive in terms of provision as it is based on outcomes of learning. Qualification frameworks can bring a better understanding and transparent comparison of learning outcomes. They are also a prerequisite for the transparent uptake and accumulation of micro-credits into larger credits⁹⁸. Over time, qualifications frameworks have evolved⁹⁹. Internationally, the inclusion of micro-credentials in national qualifications frameworks is still at an early stage. The international trends show that different approaches and processes have occurred, which mirror differences in national education systems and illustrate the need to enable some form of referencing of micro-credentials within the overall education and training provision.

Therefore, and based on the consultations outcomes and the evidence gathered, the European Commission proposes that Member States include micro-credentials, where relevant, in national qualifications frameworks/systems.

Information

⁹⁵ Bologna Working Group, 2005. Framework for Qualifications of the European Higher Education Area, s.l.: European Commission.

European Commission, 2012b. The European Qualification Framework for Lifelong Learning, Luxembourg: Publications Office of the European Union: Commission.

⁹⁶ Young, M. & Allais, S. M., 2013. Implementing National Qualifications Frameworks Across Five Continents. London: Taylor & Francis.

⁹⁷ European Commission. (2020a). Final report: A European approach to micro-credentials. Output of the Micro-credentials Higher Education Consultation Group. <https://ec.europa.eu/education/sites/default/files/document-library-docs/european-approach-micro-credentials-higher-education-consultation-group-output-final-report.pdf>

⁹⁸ MicroHE Consortium, 2019,P.33. Challenges and Opportunities of Micro-Credentials in Europe. Briefng Paper on the Award, Recognition, Portability and Accreditation of Micro-Credentials. version 6.0, <https://microcredentials.eu/>

⁹⁹ Chakroun, B. & Keevy, J., 2018,P.7. Digital Credentialing, implications for recognition of learning, Paris

The European Commission will seek to enhance the role of Europass as the EU framework for supporting communication of information on skills and qualifications. The platform is visited 50K per day, and 2 million persons having created a Europass account since its launch in July 2020 to manage their learning and career. Europass can evolve to act as a hub of information and services on micro-credentials.

Learning opportunities (courses) leading to micro-credentials can be published by Member States on the Europass platform (eg through national registers of micro-credentials that could be part of broader NQF registers). Courses leading to qualifications are already published on the platform.

Learners can already use the Europass e-Portfolio to receive suggestions on learning opportunities based on the information on their skills profile and interests; in the future, this functionality could extend to include suggestions of micro-credentials relevant to the user's needs.

7.3.3.Relevance

Micro-credentials should be designed as distinct, targeted learning achievements and learning opportunities leading to them are updated as necessary, to meet identified learning needs.

Collaboration between education and training organisations, employers, social partners, other providers and users of micro-credentials is encouraged to increase the relevance of the micro-credentials for the labour market.

The common characteristics of the majority of micro-credentials are that they are expected to be answer to specific learning needs, most of the time relevant for the labour market, and may recognise the development of wider transversal skills. The latter characteristic indicates that engagement between education and training institutions, employers and other providers is crucial to ensuring that micro-credentials are well-designed, relevant and valued by the learners, the employers and all other stakeholders.

Micro-credentials can be a strategic means to enhance partnerships between education and training institutions with their surrounding ecosystems and ensure the responsiveness of micro-credentials. Partnerships with labour market actors, including social partners and companies themselves are key to the development of micro-credentials. Co-created micro-credential programmes can reduce investment requirements and risks for individual institutions and ensure dialogue occurs around needs and priorities. Partnerships can be also be a way for education and training institutions to reduce constraints regarding a lack of specific expertise in a field, reflect both the latest research and professional best practices while improving the uptake and promotion of micro-credentials.

7.3.4. Valid assessment

Micro-credential learning outcomes are assessed against transparent standards.

The assessment methods and criteria should be constructed to measure the achievement of the required learning outcomes at the appropriate level.

The basis for trust in micro-credentials, similar to qualifications leading to a degree, is transparency in terms of what they represent. This includes information about the learning outcomes achieved and how they were assessed and quality assured. Micro-credentials should be awarded based on transparent assessment/examination methods that promote the validation of real competences. Assessment of learning outcomes against transparent standards was considered as an essential element of a definition of micro-credentials by 80% of respondents to the OPC (see 4.3.2.1).

7.3.5. Learning pathways

Micro-credentials are designed to support flexible learning pathways, including the possibility to ‘stack’, validate and recognise micro-credentials from across different systems.

Stackability

Micro-credentials are designed to be modular so that other micro-credentials may be added to create larger credentials. Decisions to ‘stack’ or combine credentials lie with the receiving organisation (e.g. education and training institutions, employers, etc.) in line with their practices and should support the goals and needs of the learner.

Validation of non-formal and informal learning

Obtaining micro-credentials is possible following assessment of learning outcomes, obtained either through a specific course leading to a micro-credential, or on the basis of assessment of learning outcomes resulting from non-formal and informal learning.

Stackability refers to the idea that micro-credentials can be accumulated over time and combined to create larger credentials. Stackability is multi-faceted and may occur in different ways, in order to meet differing needs. Stackability is enabled and made easier where common elements are used to describe the micro-credential – including a common format for describing micro-credentials which may be issued by different providers and transparent, measurable ways to describe the learning and workload involved so that a decision on stackability can be made,

Stackability may be part of the design of a micro-credential or sequences of micro-credentials allowing learners to choose from and build a particular set of skills over time and help that individual move along a career pathway. Stackability may also be considered by receiving authorities (e.g. providers, employers or recognition authorities) depending on their approach to recognition and stackability towards other

credentials. Stackability is not about combing micro-credentials to create a qualification. This can occur in some cases, in line with the decision of the relevant awarding body (in practice earning and then stacking micro-credentials to a full qualification could take an unfeasibly long time); the purpose of stackability is to construct flexible routes to acquire and develop bundles of skills for specific purposes.

The Council Recommendation of 20 December 2012 invites Member States to have validation arrangements in place which enable individuals to have knowledge, skills and competences which have been acquired through non-formal and informal learning validated, and to obtain a full qualification, or, where applicable, part qualification, on the basis of validated non-formal and informal learning experiences

This principle could be extended so that validation of skills acquired through experience (work or life) and through structured learning (non-formal or formal) could be a pathway to obtain a micro-credential, if an assessment confirms that an individual has acquired learning outcomes complying with the standards of the micro-credential.

Work on the implementation of the Validation Recommendation is an ongoing process. The latest data from the latest European Inventory on the validation of non-formal and informal learning shows that there are now possibilities for validation in at least one broad area (education and training, labour market, third sector) in all 36 countries under study, most commonly in the education and training area with all countries have validation arrangements in place in at least one subsector of education and training, except Croatia.

Education and Training sub-sector	Adult	CVET	General	Higher	IVET
Existing validation arrangements in the sector	23	30	16	28	29

Figure 16: Number of countries with validation arrangements by sub-sector

An important consideration for the purposes of micro-credentials is the possible outputs of validation. The table below shows possible outcomes of validation per country which can include modules and non-formal awards. Micro-credentials could serve as a valuable potential outcome of validation processes as they can by their very nature recognise the outcomes of differing types and volumes of learning. In around 70% of the cases in which validation arrangements are in place in education and training, it is possible to obtain a qualification (or a partial qualification) in education and training and in the instances in which labour market initiatives exist. A similar number exist in terms of exemption in different ways (granting modules, credits or other type of exemptions). This is an encouraging picture for micro-credentials, as the validation systems seemed, in most cases ready for accepting reduced parts of qualifications.

There are varying practices and barriers to wider scaling up of validation of non-formal and informal learning, including the resources required and standardising the validation of learning outcomes based processes. However, micro-credentials could offer a common focus for the output of validation that are

measurable, easily understood and can motivate learners by giving value and visibility to the learning achievements.

A) Award of full formal qualification (22)	
Austria, Belgium-Flanders, Bulgaria, Denmark, Finland, France, Germany, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Slovenia, Spain, Sweden, Switzerland, United Kingdom (England Northern Ireland)	
B) Award of part of a formal qualification (27)	C) Award of other non-formal qualification/ certificate (15)
Austria, Belgium-Flanders, Bulgaria, Czech Republic, Denmark, Estonia, Finland, France, Germany, Iceland, Ireland, Italy, Latvia, Liechtenstein, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Slovenia, Spain, Sweden, Switzerland, United Kingdom (England Northern Ireland), United Kingdom (Scotland) United Kingdom (Wales)	Austria, Belgium-Wallonia, Cyprus, Czech Republic, Finland, Germany, Greece, Iceland, Ireland, Netherlands, Poland, Slovenia, Spain, United Kingdom (Scotland), United Kingdom (Wales)
D) Award of credit points (25)	E) Award of modules (22)
Austria, Belgium-Flanders, Denmark, Estonia, Finland, Germany, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Malta, Netherlands, Norway, Poland, Portugal, Slovenia, Spain, Sweden, Switzerland, United Kingdom (England Northern Ireland), United Kingdom (Scotland) United Kingdom (Wales)	Austria, Belgium-Flanders, Belgium-Wallonia, Denmark, Estonia, Finland, Ireland, Italy, Latvia, Liechtenstein, Luxembourg, Malta, Netherlands, Norway, Poland, Romania, Slovenia, Spain, Switzerland, United Kingdom (England Northern Ireland), United Kingdom (Scotland) United Kingdom (Wales)
F) Exemptions from part of course (25)	G) Access to formal programmes (e.g. programmes in formal education) (27)
Austria, Belgium-Flanders, Belgium-	Austria, Belgium-Flanders, Belgium-

Wallonia, Czech Republic, Denmark, Estonia, Finland, Hungary, Iceland, Ireland, Latvia, Liechtenstein, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovenia, Sweden, Switzerland, United Kingdom (England Northern Ireland), United Kingdom (Scotland) United Kingdom (Wales)	Wallonia, Bulgaria, Denmark, Estonia, Finland, Germany, Hungary, Iceland, Ireland, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Romania, Slovenia, Spain, Sweden, Switzerland, United Kingdom (England Northern Ireland), United Kingdom (Scotland) United Kingdom (Wales)
H) Training specification (i.e. to map what training needs to be completed in order to achieve a (full) qualification) (18)	D) Access to the labour market (e.g. a qualification that is compulsory to exercise a certain job) (9)
Austria, Belgium-Wallonia, Czech Republic, Denmark, Finland, Iceland, Ireland, Latvia, Liechtenstein, Netherlands, Norway, Poland, Slovenia, Spain, Sweden, Switzerland, United Kingdom (England Northern Ireland), United Kingdom (Wales)	Belgium-Wallonia, Czech Republic, Finland, Ireland, Netherlands, Poland, Slovakia, Sweden, United Kingdom (Wales)

Figure 17: The outputs of validation by country; Source: 2018 European Inventory. Note: The table relates to the education and training area only.

The EQF AG currently organises its work on validation around four broad thematic areas:

- Validation in national skills strategies;
- Making validation a reality for individuals;
- Developing high quality validation methodologies;
- Exploring complementary routes to certification;

The topic of micro-credentials has not been addressed in detail within the EQF Advisory Group however Note EQF AG 56-5 on the topic of complementary routes to certification highlights the increasing diversity of certification modes on offer, including the awarding of micro-credentials by a widening range of companies and institutions and that increased attention needs to be given to the ways in which individuals can combine, connect and accumulate qualifications, certificates and other types of credentials over a lifetime.

Another perspective to consider is that as the offer and uptake of micro-credentials increases, the current time and resource-intensive procedures for recognition of prior learning and experience may not be able to satisfy the increased demand. Moreover, the funding context of these procedures differs widely in the Member States, and is regarded as a resource- and time-intensive process. Procedures for the recognition

of prior learning and experience would need to be adapted for the purpose to satisfy a substantially increased demand. Recognition processes underpinned by digital means could here play a facilitation role.

7.3.6. Recognition

Recognition has a clear signalling value of learning outcomes for smaller modules of learning and paves the way for a wider offer of such learning experiences in a comparable way across the EU.

Micro-credentials are recognised for academic or employment purposes based on standard recognition procedures used in recognising foreign qualifications and learning periods abroad, when dealing with micro-credentials issued by formal education providers.

Recognition of micro-credentials should be encouraged and based on standard recognition procedures when issued by formal education providers. The challenges concerning recognition of micro-credentials are not different from the general challenges in recognition. Consistent terminology in describing learning outcomes will help make such an assessment.

The EU Council Recommendation on promoting automatic mutual recognition of higher education and upper secondary education, training qualifications and the outcomes of learning periods abroad calls for automatic mutual recognition for the purpose of further learning without having to go through a separate recognition procedure, under certain circumstances, both at the level of full qualifications and at the level of periods of study¹⁰⁰.

The Lisbon Recognition Convention, ratified by 26 EU Member States, refers to degrees, diplomas or certificates issued by competent authorities, based on the successful completion of a higher education programme. These degrees, diplomas or certificates shall be recognised for the purpose of access to higher education studies, academic titles or in certain cases to the labour market, unless substantial difference can be shown. Periods of study completed shall be recognised towards the completion of a higher education degree, unless substantial difference can be shown.

In academic recognition procedures, the key actors, depending on the situation in Members States, are ENIC/NARIC centres, ministries and higher education institutions. The Lisbon Recognition Convention

¹⁰⁰ European Commission, 2018. Council Recommendation of 26 November 2018 on promoting automatic mutual recognition of higher education and upper secondary education and training qualifications and the outcomes of learning periods abroad. Available at: [https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1568891859235&uri=CELEX:32018H1210\(01\)](https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1568891859235&uri=CELEX:32018H1210(01))

applies to their processes. Standard recognition procedures that are used for the recognition of foreign qualifications and learning periods abroad can be used as a starting point when dealing with micro-credentials issued by formal education providers.

As the offer and uptake of micro-credentials increases, the current time and resource-intensive procedures for their current recognition would not be able to meet the increased demand. In Higher education, the result of a complex recognition procedure could be that learners are hesitant to seek recognition of micro-credentials that they acquired outside their formal full degrees. Experience shows that learners seeking exemption from certain parts of a curriculum based on claiming recognition of studies outside of the curricula may face challenges¹⁰¹.

Recognition of micro-credentials by employers, education and training organisations and national authorities were considered as the most important aspects of high-quality micro-credentials with respectively 81%, 74% and 72% of respondent considering it as ‘very important’:



Figure 18: Most important aspects of high-quality micro-credentials. Open public consultation

7.3.7. Portable

Micro-credentials are owned by the credential-holder (the learner) and may be stored and shared easily by the credential-holder, including through secure digital wallets (e.g Europass), in line with the General Data Protection Regulation. The infrastructure for storing data is based on open standards and data models, This ensures interoperability and seamless exchange of data, and allows for smooth checks of data authenticity.

¹⁰¹ MicroHE Consortium, 2019. Challenges and Opportunities of Micro-Credentials in Europe. Briefing Paper on the Award, Recognition, Portability and Accreditation of Micro-Credentials. version 6.0, <https://microcredentials.eu/>

Micro-credentials should enable flexible learning pathways and accommodate the goals and resources of the learner. In order to do so, micro-credentials should be ‘stackable’ meaning that they can be accumulated and grouped over time, building into a larger credential.

Stackability of the micro-credential supports both its inclusion into flexible learning pathways and accommodates the goals and resources of the learner.

Europass provides a basis for stacking credentials accumulated over time and from different institutions. It is built on a single data model, which can describe all forms of learning outcomes including micro-credentials .

Micro-credentials are issued in various formats (on paper or in a digital form, stored locally or using a cloud solution). It is clear that learners should own their own credential data, rather than the issuing institution. In line with the General Data Protection Regulation (GDPR), it is up to the learner to decide with whom they wish to share their data.

When considering how to enable easy storage, sharing and portability of micro-credentials, a digital format appears to be essential. This does not imply that the learning experience is digitally based but that the certificate is issued in a digital format. Such a format would be beneficial for the learners but also the providers and the employers by facilitating their portability and recognition.

The data owned by the learner could be stored in a digital wallet in order to collect them in one place and share them easily whether it is for education and training purpose or job transitions. Collecting micro-credentials in a digital wallet implies an infrastructure for storing data.

Storing and sharing of data should be based on open standards and data models to support interoperability and seamless exchange of data, and allows for smooth verification of data authenticity. The Europass framework, including the Europass Learning Model and Digital Credentials infrastructure can support these goals.

The European approach to micro-credentials will establish a common format for describing micro-credentials that will key to supporting the portability micro-credentials.

The Commission can make use of existing EU tools, in particular the Europass framework, to support implementation and use of this common format. Europass is operated as a framework, meaning it supports openness, interoperability and easier exchange of data.

The key element in enabling this is the Europass Learning Model which is a single format to describe all types of learning achievements (certificates of attendance, examination results, degrees and diplomas, diploma supplements, professional certifications, employer recommendations etc). This data model has a very broad coverage and can be used for the purposes of micro-credentials with very few adaptations and serve as an ‘open standard’ that specifies a common format for describing micro-credentials. Using a single data model will support portability and easier exchange of data on micro-credentials (e.g. sharing

of micro-credentials between IT systems of education and training systems) within and between Member States.

Within Member States the data model can be used in local IT systems for designing and issuing micro-credentials but by adhering to the Europass model the data on the micro-credential can be easily shared and understood.

Secondly, the Europass Digital Credential Infrastructure can already be used to issue, store (in the ‘Europass Wallet’) and share authentic, tamper-proof digital micro-credentials. Learners and organisations can access these services directly via the Europass platform. Organisations such as education and training providers can reuse components of the infrastructure to build a ‘wallet’ for their graduates in their student portal and issue micro-credentials directly to students wallets, while still adhering to the Europass format.

With this solution in place, learners, employers, education and training providers and other authorised bodies have a simple and trustworthy way of receiving, storing, sharing and verifying the validity and authenticity of digital micro-credentials.

Importantly, learners, providers and stakeholders will not be restricted to using Europass services such as the ‘Europass Wallet’. Other digital solutions and platforms for the digital storage, sharing and exchange of micro-credentials, (as well as accessing information and enrolling in courses leading to micro-credentials) are available however the interoperability and easy exchange of information on micro-credentials will only be possible with consistent and widespread use of the Europass Learning Model.

7.3.8. Learner centred

Micro-credentials are designed to meet the needs of the target group of learners. Learners are involved in the internal and external quality assurance processes and their feedback is taken into account as part of the continuous improvement of the micro-credential.

At the heart of micro-credentials are learners – individuals in search of a first experience of higher education or in pursuit of updating and enhancing their knowledge, skills and competences after a period in or out of the workforce. When designing a micro-credential, learners should be involved and the needs of the target group of learners need to be considered.

Furthermore, learners should be involved in the quality assurance processes, while acknowledging that the engagement of the non-traditional learners in the quality assurance processes could be more complex and potentially even more so in the case of stand-alone micro-credentials.

Learners should be involved in the quality assurance processes and the feedback of alumni should be taken into account as part of the continuous improvement plan of the micro-credential.

7.3.9. Authentic

Micro-credentials contain sufficient information to check the identity of the credential-holder (learner), the legal identity of the issuer, the date and location of issuance of the micro-credential.

Micro-credentials must contain enough information to verify when, where and by whom it was issued, trace and reproduce the conditions under which it was issued. This is key to establishing trust in the micro-credential, and in micro-credentials in general. Education and training institutions, employers, and other recipients of micro-credentials require that at minimum they can establish details of the authenticity of the micro-credential before considering the learning outcome and other details. Learners naturally will be more assured, motivated and protected if their micro-credentials can be easily authenticated.

The European Commission launched the Europass Digital Credentials Infrastructure in 2020 which offers free tools for institutions across the EU to issue credentials as well as diplomas and certificates at all levels, in a tamper-proof, digital format with automatic verification of authenticity. The infrastructure will allow organisations to issue qualifications, apprenticeships or certificates in an efficient and secure, trustworthy and fraud-resistant digital infrastructure and importantly can be adapted for the purposes for micro-credentials. Europass Digital Credentials support instant verification; recipients can automatically verify information such as the identity of the awarding body or the quality assurance of a qualification.

Europass Digital Credentials are signed with an e-Seal, meaning they enjoy a legal presumption of authenticity across the EU as well as equivalence to paper-based credentials containing the same information.

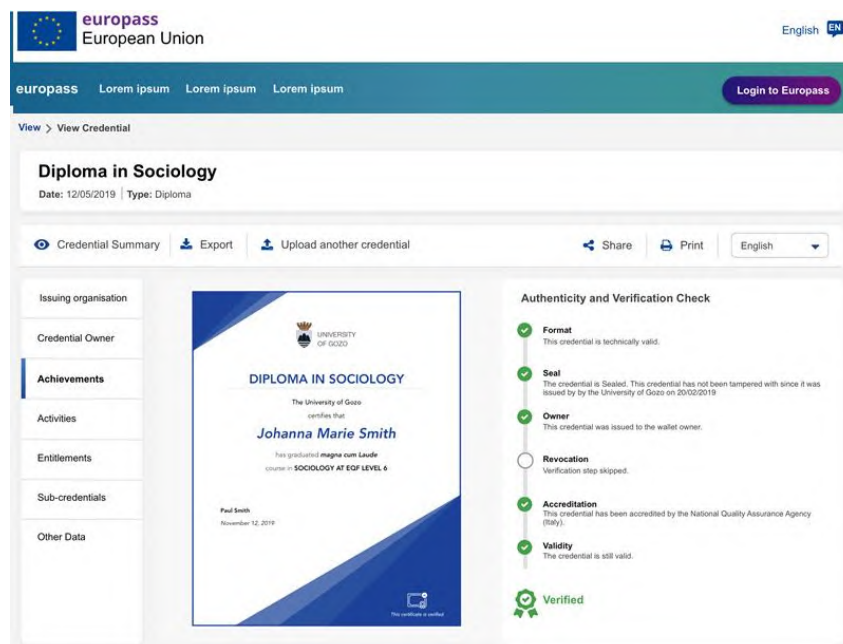


Figure 19: Diploma in Europass Digital Credentials

7.3.10. Information and guidance

Information and advice on micro-credentials should be incorporated in lifelong learning guidance services and should reach the broadest possible learner groups, in an inclusive way, supporting education, training and career choices.

Career guidance helps people of all ages to manage their careers and their educational, training and occupational choices. Effective career guidance is underpinned by the skills assessment of the individual. There are guidance services available at different levels: guidance provided by the employer, and local and national employment offices. University career centres, Public Employment Services (PES) and other guidance services (employment, career, education and training, coaching) can help to reach the widest possible learner groups, in an inclusive way, underpinning lifelong learning as a public good based on European values.

Incorporating information and guidance on micro-credentials with lifelong guidance services would enable learners to fully benefit from more personalised lifelong learning pathways and make informed decisions about their educational journey.

7.4. Provisions in the proposal

The recommendation proposes guidance and action that can be pursued by Member States in order to address the main objectives of the initiative, to enhance the quality, transparency and take-up of small learning experiences leading to micro-credentials that are issued by providers. The proposal outlines a set of recommendations to Member States to support the effective implementation of the Council Recommendation, in line with national priorities and circumstances, and invites the Commission to support Member States and stakeholders, in particular by facilitating co-operation and developing practical guidance and tools to support development and use of micro-credentials. It sets out the European Commission's commitment to complement and support Member State actions in this area.

§ 1-2 recommends that Member States adopt a European approach to micro-credentials to: (i) widen learning opportunities for people; support the preparedness of providers of micro-credentials; and (iii) foster inclusiveness and equal opportunities. Micro-credentials will also help reach the target of 60% of all adults participating in training every year as set out in the European Pillar of Social Rights action plan and as welcomed by EU leaders.

§ 3-4 makes clear that the scope of the proposal is to set up a common European approach to providing micro-credentials. This common approach will involve a definition of micro-credentials and guidance for how to design, issue and describe micro-credentials.

§ 5 includes definitions for the purpose of the recommendation.

§ 6 recommends that Member States adopt ‘Union standard’ elements to describe a micro-credential and Union principles for the design and issuance of micro-credentials as set out in Annexes I and II.

§ 7-10 sets out actions to develop ‘ecosystems for micro-credentials’ within the evolving education and training systems, labour markets and society.

§ 11-15 makes recommendations on the uses of micro-credentials within education and training systems, skills policies, and employment and active labour market policies that can serve the needs of a wide range of learners, workers, job seekers and others so they can benefit fully from both a socially fair recovery from COVID-19 and the just transitions to the green and digital economy.

In addition, the proposal suggests promoting the use of micro-credentials to help certain target groups to re-enter the labour market, notably minimum income recipients, the long-term unemployed; and the low-qualified. It also suggests promoting the use of micro-credentials for self-employed and platform workers who may not be able to access traditional education and training, but who need targeted support to advance in their careers. Micro-credentials can also be used to recognise the outcomes of mandatory or required training for certain jobs and professions e.g. first aid, manual handling, and operating machinery for specific jobs and professions.

§ 16-19 welcomes the Commission’s intention to support the development and use of micro-credentials by: (i) developing or adapting EU tools and services; (ii) supporting cooperation between Member States and stakeholders; (iii) developing the Europass platform; and (iv) supporting further research on the uptake of the European approach to micro-credentials.

Implementation will be underpinned through existing EU tools that support the needs of individuals and organisations, including Europass and the Europass digital credentials for learning to support the portability and authenticity of micro-credentials. Implementation will also be underpinned through the European student card initiative which will allow students to share the outcomes of micro-credentials electronically and securely with other education and training institutions. Finally, EU funding programmes and instruments will help to facilitate the uptake of short learning experiences leading to micro-credentials.

§ 20-22 sets the reporting mechanisms for implementing the recommendation.

The accompanying staff working document describes a wide range of recent research evidence together with European stakeholder opinions and experiences to support the proposed recommendation. The staff working document also provides examples of existing policies and projects in this rapidly developing field.