

# I'MINQA

## **Approaches to Quality Assurance of Micro-credentials**

**A report on policies and practices to assure the quality of micro-credentials in the European Higher Education Area**

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## Foreword

This report is produced as part of the three-year *Implementation and Innovation in quality assurance through peer learning* (IMINQA) project, which supports the work of the Bologna Process Thematic Peer Group C on Quality Assurance (TPG C). The project is co-funded by the Erasmus+ Programme.

One focus area of the IMINQA project is the quality assurance of micro-credentials. Building on the findings of the *Micro-credentials linked to the Bologna Key Commitments* (MICROBOL) project, IMINQA aims to conduct a desk research and to develop a set of guiding documents on the practices for the internal and external quality assurance of micro-credentials, which will feed into recommendations for the European Higher Education Area (EHEA) on this topic.

The project is coordinated by the Flemish Ministry of Education and Training in cooperation with:

- The Romanian Agency for Quality Assurance in Higher Education (ARACIS)
- The European Association for Quality Assurance in Higher Education (ENQA)
- The European Quality Assurance Register for Higher Education (EQAR)
- External experts

## Acknowledgements

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## Introduction

Micro-credentials are currently a topic of high interest for policy-makers and education (and training) providers. They are perceived as a more flexible way of acquiring and recognising knowledge, skills and competences. However, it should be noted that higher education institutions (HEIs) and alternative providers<sup>1</sup> have been offering learning opportunities in small units for a long time. The novelty rather resides in the term ‘micro-credentials’ itself and in the desire to standardise micro-credential offers to enhance their quality, recognition, portability, relevance and use, regardless of the type of provider and their mode of delivery. It is however important to note that, despite the fact that the term micro-credential has become popular due to the latest active discussions and policy developments, it is not widely used in many EHEA countries.

For the purposes of its work, the IMINQA project uses the micro-credential definition proposed by the European Commission, according to which it means ‘the record of the learning outcomes that a learner has acquired following a small volume of learning. These learning outcomes will have been assessed against transparent and clearly defined criteria. Learning experiences leading to micro-credentials are designed to provide the learner with specific knowledge, skills and competences that respond to societal, personal, cultural or labour market needs. Micro-credentials are owned by the learner, can be shared and are portable. They 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.’ (p. 13).

This report provides a general overview on the state of play of policy developments and presents information on various activities, initiatives and reports related to the quality assurance of micro-credentials in the EHEA. Input for this report was collected via desk research, a survey, and various interviews, as outlined below<sup>2</sup>:

- The desk research conducted from November 2022 to May 2023 involved the collection and analysis of existing reports (conducted at national and international levels) and information on various national initiatives related to micro-credentials from across the EHEA.
- The survey was launched in November 2022 and distributed to the members of the Bologna Process Thematic Peer Group C on Quality Assurance (TPG C). From a total of 47 EHEA countries, 31 (66%) answered the survey.
- Interviews were conducted between February and May 2023 with representatives of 12 quality assurance agencies, 14 HEIs and six alternative providers. These were selected based on their profile and the geographical balance.

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<sup>1</sup> For the purpose of this report, alternative providers refer to providers of higher education other than HEIs (the exact definition or relevance of alternative providers varies between systems/countries). According to the definition of the European Commission, providers ‘may include organisations, social partners (i.e. organisations representing workers and employers), employers and industry, companies, civil society organisations, public employment services (PES) and regional and national authorities, and other types of actors designing, delivering and issuing micro-credentials for non-formal and informal learning’ (European Commission, 2022, p.13).

<sup>2</sup> It should be noted that initiatives in the field of micro-credentials are developing fast and that in the meantime, changes may have occurred.

## European policy context

In July 2020, the European Commission launched the *EU Skills Agenda*<sup>3</sup>. It included the European approach to micro-credentials as one of the tools to support individuals in their lifelong learning pathways. The commitment to work towards a European approach was also made in the *Communication on the European Education Area*<sup>4</sup>, the *Council Recommendation on vocational education and training (VET) for sustainable competitiveness, social fairness and resilience*<sup>5</sup> and mentioned in the *Commission's Digital Education Action Plan*<sup>6</sup>. In addition, the *2020 Bologna Process Communiqué*<sup>7</sup> has underlined the need for the Bologna Follow-up Group<sup>8</sup> (BFUG) to explore how and to what extent micro-credentials can be defined, developed, implemented and recognised by HEIs using the EHEA tools (p. 6). Most of these policies highlight 1) the need to upskill and reskill the labour force in light of the recovery plans related to Covid-19 and 2) the rapidly changing societal needs, such as tackling green and digital transitions.

In a context of socio-economic changes, where unemployment rates are expected to rise, the *European Pillar of Social Rights*<sup>9</sup> has set a number of targets to be achieved by 2030 in the areas of employment, skills, and social protection. One of these targets is to have at least 60% of all adults participating in training every year. Micro-credentials are seen as an instrument to reach this target and to fill in the skills gap by reskilling and upskilling the labour force in a more rapid and flexible manner.

Numerous projects, initiatives and studies, concentrated on how to define, develop, quality assure and recognise micro-credentials, have appeared in the past years. As a result of a broad public consultation, the European Commission made a proposal for a *Council Recommendation on a European approach to micro-credentials for lifelong learning and employability*<sup>10</sup> which was adopted by the Council of the European Union in May 2022. The member countries of the EHEA have also been discussing this topic and the applicability of EHEA tools, including the Standards and Guidelines for Quality Assurance in the EHEA (ESG), in various events and projects including the MICROBOL<sup>11</sup> project. The conclusions of this project contributed to the definition of standard elements to describe a micro-credential. These are part of the Council Recommendation.

Most of the aforementioned policies highlight the importance of quality education, including micro-credentials. The first European principle for the design and issuance of micro-credentials, as indicated in the Council Recommendation, is quality. This principle underlines the importance of external quality assurance based primarily on the assessment of providers (rather than individual courses) and the effectiveness of their internal quality assurance procedures in assuring the quality of micro-credentials (p. 30). In addition, quality assurance is included in the EU definition of micro-credentials as one of the

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<sup>3</sup> <https://ec.europa.eu/social/main.jsp?catId=1223&langId=en>

<sup>4</sup> [https://education.ec.europa.eu/sites/default/files/document-library-docs/eea-communication-sept2020\\_en.pdf](https://education.ec.europa.eu/sites/default/files/document-library-docs/eea-communication-sept2020_en.pdf)

<sup>5</sup> [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32020H1202\(01\)&from=EN](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32020H1202(01)&from=EN)

<sup>6</sup> [https://education.ec.europa.eu/sites/default/files/document-library-docs/deap-communication-sept2020\\_en.pdf](https://education.ec.europa.eu/sites/default/files/document-library-docs/deap-communication-sept2020_en.pdf)

<sup>7</sup> [http://www.ehea.info/Upload/Rome\\_Ministerial\\_Communique.pdf](http://www.ehea.info/Upload/Rome_Ministerial_Communique.pdf)

<sup>8</sup> The Bologna Follow-up Group (BFUG) is the executive structure supporting and overseeing the Bologna Process in-between the Ministerial Conferences.

<sup>9</sup> <https://op.europa.eu/webpub/empl/european-pillar-of-social-rights/en/>

<sup>10</sup> <https://data.consilium.europa.eu/doc/document/ST-9237-2022-INIT/en/pdf>

<sup>11</sup> <https://microcredentials.eu/about-2/microbol/>



standard elements to describe a micro-credential. Thus, quality assurance is essential when it comes to building trust in micro-credentials and the facilitation of their uptake and recognition.

With the increased policy focus on skills and continuous education in the EU, the Commission has conducted a consultation on the *2016 Upskilling pathways Council Recommendation*<sup>12</sup>, an initiative aiming to help low-skilled adults develop new skills through learning opportunities. In addition, the Commission has launched a public consultation on the *2017 Council Recommendation on the European Qualifications Framework for lifelong learning*<sup>13</sup>, aiming to improve the transparency, comparability and portability of people's qualifications. The purpose of both consultations is to evaluate the implementation of the Recommendations and to draw conclusions for the future. Lastly, the Commission designated 2023 as the *European Year of Skills*<sup>14</sup>.

Given this policy context, it is clear that micro-credentials cover a large part of the European policy agenda. Their quality and recognition have gained importance over the past few years and will continue to be a topic for debates in the coming years.

## Policy developments in EHEA countries

The MICROBOL project (2020-'22) reached the important conclusion that the EHEA tools<sup>15</sup> can and should be used for micro-credentials, as well as for any other higher education provision within the EHEA. At the same time, it was clear that further dialogue, with all actors involved in the provision, assessment, issuance, quality assurance and recognition of micro-credentials at the national and EHEA level would be necessary.

### Defining micro-credentials

Even though the term micro-credential has been defined in the Council Recommendation, data drawn from interviews with representatives of HEIs and quality assurance agencies<sup>16</sup> show that it is primarily used at EU and EHEA policy level. Most EHEA countries do not have an official definition nor a widespread usage of the term. However, it is generally agreed that micro-credentials are small volumes of learning and are mainly part of the lifelong learning provision that aims to respond to the needs of society and learners for reskilling and upskilling.

These findings concur with the results of a survey of national authorities conducted by Cedefop in which 55% of respondents indicated that the term micro-credential is not used while another 38% indicated that a different term that fits the EU definition is adopted. Among the terms used (for the learning unit and/or the certification), the most common ones are badges, certificates, module certificates, partial qualifications, micro-qualifications and supplementary qualifications (Cedefop, 2022, p. 28). Some countries use the term micro-credential to refer to both the learning activity and the certification. This goes in line with the definition proposed by the MICROBOL project (MICROBOL

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<sup>12</sup> [https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12637-Improving-adults-basic-skills-Upskilling-pathways-recommendation%E2%80%9D-evaluation/public-consultation\\_en](https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12637-Improving-adults-basic-skills-Upskilling-pathways-recommendation%E2%80%9D-evaluation/public-consultation_en)

<sup>13</sup> [https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13042-European-Qualifications-Framework-for-lifelong-learning-evaluation\\_en](https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13042-European-Qualifications-Framework-for-lifelong-learning-evaluation_en)

<sup>14</sup> <https://ec.europa.eu/social/main.jsp?langId=en&catId=89&newsId=10431&furtherNews=yes>

<sup>15</sup> The EHEA tools are the Framework of Qualifications of the European Higher Education Area (QF-EHEA), the European Credit Transfer and Accumulation System (ECTS), the Diploma Supplement and the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG).

<sup>16</sup> Representatives of the following countries participated in interviews: Slovenia, Hungary, the UK, Sweden, Estonia, France, Croatia, Republic of Moldova, Malta, Germany, Spain, Italy, Georgia, Austria, Czech Republic, Ireland, Belgium. For more information see Annex 1.

2020, p. 7). In other countries, though, the term micro-credential defines only the credential and not the learning provision leading to it.

The lack of a definition for micro-credentials and their main characteristics at national/regional level may lead to misunderstandings among stakeholders and providers using the term, regarding whether the characteristics are met and whether the provider and/or micro-credential is quality assured or not. However, in some countries a national definition does exist, and sometimes it is proposed by the relevant quality assurance agency in order to frame the scope of the approach to quality assurance and recognition of micro-credentials and to protect the reputation of providers. Other countries, or even individual HEIs, use the definition given in the Council Recommendation because it serves the work of the systems or institution on this topic and is well understood by the institutional community.

There is a general agreement among those that were interviewed for this report that when defining micro-credentials at national/regional level two aspects need to be considered: fostering trust and transparency, and preserving flexibility.

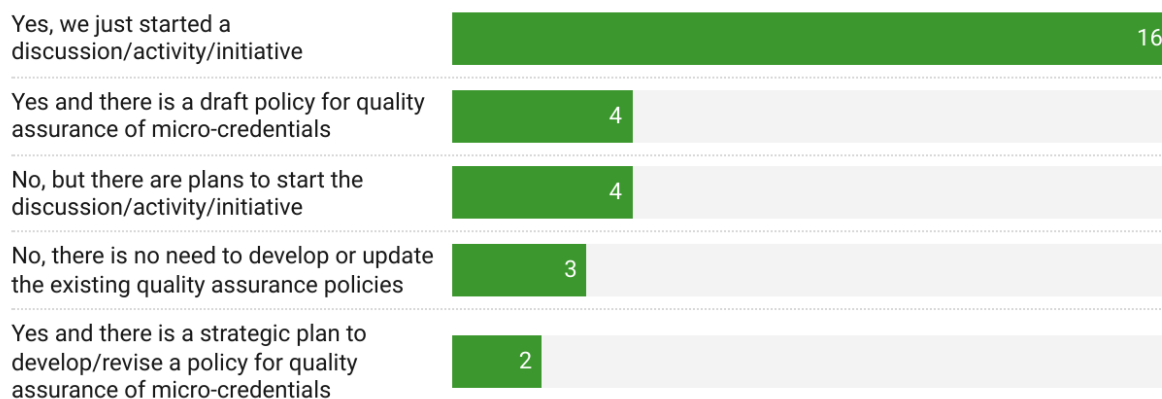
## **National legislation**

The MICROBOL project recommendation related to national legislation for micro-credentials indicates that ‘national governments should explore whether a change in legislation is needed, and if this is the case, plan the relevant changes, exchange information with other countries and explore good practices and experiences at international level while providing support to HEIs, encourage the development of micro-credentials and consider institutional autonomy to allow for diversity and creativity.’ (MICROBOL 2021a, p. 4).

Interviewees in a recent OECD study provided mixed views on the role of governments in regulating micro-credential offerings. Some were of the opinion that governments have an important role to play in providing guidelines, in defining micro-credential programmes and in standardising some aspects of these programmes in order to enable learners to understand and compare offerings. Others stressed that regulations are currently limiting innovation and need to be relaxed or removed. Although there are different types of regulatory barriers, some countries that participated in the OECD study reported that an inflexible quality assurance system has been hindering HEIs being innovative and developing micro-credential programmes (OECD 2021, p. 6). Therefore, the level of regulation proposed by governments needs to be well balanced and considerate of institutional autonomy, as regulations which are too prescriptive may hinder innovation and constrain HEIs and other providers. Governments can rather play an important and supportive role through appropriate legislation, funding schemes and the provision of guidelines.

Many EHEA member countries see the value of micro-credentials (for upskilling and reskilling the labour force and widening access to higher education) and the importance of ensuring their quality. According to the IMINQA survey data, most of the respondent countries (16) have just started a discussion, activity or initiative related to the development or revision of policies for quality assurance of micro-credentials. Four countries indicated that there is a draft policy for quality assurance of micro-credentials while four others specified that they had a plan to start a discussion, activity or initiative concerning this topic (*See Fig. 1*).





*Status of activities directed towards development/revision of policies for quality assurance of micro-credentials*

Source: IMINQA • Created with Datawrapper

*Figure 1: Status of activities directed towards development/revision of policies for quality assurance of micro-credentials*

Ministries of education, quality assurance bodies, HEIs or national associations of HEIs are involved in most of the activities reported by the respondent countries. In some countries a larger pool of stakeholders is involved, including also representatives of ENIC/NARIC centres, continuing education providers, other ministries such as the ministry of labour, student unions, employment organisations or employers' representatives. In most cases, these activities are led by the local ministry of education and take the form of nationwide initiatives, projects, or working groups.

The status of these activities varies from country to country. Looking at the stage of development and the focus of the discussions, the following three approaches can be identified, though it should be noted that they are not always sequential or mutually exclusive:

**Approach 1** - countries closely follow the ongoing trends and participate in national and international working groups on the topic of micro-credentials, they organise workshops for HEIs, conduct nationwide projects, pilots, research and consultations with stakeholders and they draft position documents related to quality assurance of micro-credentials.

For example, a series of workshops for HEIs and a conference for the wider audience were organised in Croatia. These activities aimed to present the concept of micro-credentials, to raise awareness, and to encourage their development. Another example is Italy, where a working group was set up by the Ministry for Universities and Research to explore the possibility of certifying micro-credentials offered by HEIs without substantial regulatory changes. The group developed and proposed a policy document which called for the establishment of a system of evaluation and monitoring of the quality of micro-credentials. The report also made some recommendations in this regard. Similarly, in the Netherlands, the Ministry of Education, Culture and Science has started a conversation with different stakeholder groups, such as the university associations, the private higher education sector or employers' and industry representatives, on the potential of micro-credentials and what the national government could do to support their development. In Austria, the Ministry of Education, Science and Research has set up a consultation group for micro-credentials which published a position paper in 2021. Work is now ongoing to develop recommendations for the implementation of micro-credentials.

Regarding nationwide initiatives, in Sweden, the project *Kompetenspasset*<sup>17</sup>, scheduled to run for three years (2021-2023), focuses on micro-credentials' development, implementation, quality

<sup>17</sup> <https://www.kompetenspasset.se/>



assurance, recognition and digitalisation. It is primarily capturing post-secondary, non-tertiary education, and non-formal and informal learning. It aims to produce pilots, models, and digital infrastructure for the provision of micro-credentials. Another nationwide project is *MicroCreds*<sup>18</sup> in Ireland, a five-year project led by the Irish University Association in partnership with seven universities. It aims to set-up a national framework for quality assured and accredited micro-credentials and to ‘develop, pilot and evaluate the building blocks required for a transformation in lifelong and life-wide learning through micro-credentials.’ Similarly, in the Netherlands, 32 HEIs, including 10 universities and 22 universities of applied sciences, have been taking part in a Dutch national pilot<sup>19</sup> focusing on the development of a quality framework for issuing micro-credentials. In the Czech Republic, a project involving 26 universities is unfolding, which aims to incorporate the EU Council Recommendation into legislation over the course of this year.

In most countries, the discussion around micro-credentials is taking place in the context of a broader exploration of the future of lifelong learning, its quality and recognition. Lifelong learning is perceived as instrumental in the recovery from the COVID-19 pandemic and the digital and green transitions. Therefore, in some countries, the system level initiatives and projects related to micro-credentials are developed within the framework of national recovery, resilience and development plans and are funded through these mechanisms.

**Approach 2** – countries work on defining criteria, procedures and timelines for the implementation of micro-credentials; they work on strategic plans for quality assurance of micro-credentials and on the development of processes and procedures to evaluate micro-credentials, on recommendations for changes to the higher education law, and on drafting policies. In most cases, the work is based on information collected under activities described in approach 1.

For instance, in Slovenia, many of the aforementioned activities have already taken place. The initial phase of implementing the quality assurance framework for micro-credentials is currently unfolding. In Sweden, there is a strategic plan to revise the policy for quality assurance of micro-credentials. In Moldova, the process of introducing the concept of micro-credentials in the Code of Education and a new qualifications framework, including details about the organisation and quality assurance of micro-credentials, is at the stage of consultation and examination, before being approved by the government. In the UK, the Quality Assurance Agency for Higher Education (QAA) developed a *Characteristics Statement Micro-credentials*, in collaboration with different stakeholders. This is a guideline rather than a policy, it describes the distinctive features of micro-credentials and provides general advice for higher education providers regarding their design and development (QAA, 2022, p. 1).

**Approach 3** – countries work on updating the national qualifications frameworks to include micro-credentials, or have included them already. Some countries have completed or are in advanced stages of the process of including micro-credentials in higher education law.

For example, Iceland has included micro-credentials in the national qualifications framework. Similarly, in Croatia, a new Act on Higher Education and Scientific Activity, which regulates the link between lifelong learning programmes and the Croatian Qualifications Framework, entered into force at the end of October 2022. According to the new Act, HEIs can offer lifelong learning programmes (which include micro-credentials) in line with the learning outcomes in the Register of the Croatian Qualifications Framework.

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<sup>18</sup> <https://www.iua.ie/ourwork/learning-teaching/microcreds/microcreds-project-overview/>

<sup>19</sup> <https://www.versnellingsplan.nl/en/Kennisbank/pilot-microcredentials/>

Coinciding with the findings about these approaches, the Cedefop study found that the most common national activities include policy initiatives and projects for integrating micro-credentials into the national qualifications system or framework, data collection, and the incorporation of micro-credentials and information about them in a central register (Cedefop, 2022, p. 47).

Not all countries, however, need to amend their higher education law to allow for the provision of micro-credentials. The results of the MICROBOL survey, conducted at the end of 2020, indicated that the legislation in 15 countries (out of 34 that answered) does not regulate micro-credentials by explicitly mentioning them, but it implicitly allows for their provision (MICROBOL, 2021b, p. 15). The research for this present report and the working group discussions also indicate that not all countries need to revise and change their legislation or quality assurance system as the existing mechanisms already accommodate micro-credentials.

Another reason to not include micro-credentials in the strategic policy documents or higher education laws is that many countries are at an early stage of discussing this topic at the national/regional level. In response to the Cedefop survey only 36% of respondents representing national authorities indicated that micro-credentials are referred to in strategic policy documents in their country, and 30% said that they were unsure about the topic and could not answer the question (Cedefop, 2022, p. 42).

In some countries changes to the law and the quality assurance system are related to lifelong learning/continuing education and further education because micro-credentials are primarily considered part of this provision. In [Slovenia](#) a system of lifelong learning will be established at the higher education level, including appropriate evaluation and recognition procedures for micro-credentials. On the other hand, in [France](#), such a change is not needed as there are several quality assurance mechanisms addressing short training programmes that are part of lifelong learning provision, offered by HEIs and alternative providers.

In federal countries, different approaches and regulatory frameworks are developed in different parts of the country. This may be a challenge for the recognition and portability of micro-credentials. For example, in [Bosnia and Herzegovina](#) there are 12 education systems with no state level competencies on education. Recently, canton Sarajevo has officially introduced the concept of micro-credentials in the field of higher education. The law stipulates that a higher education institution can organise forms of education other than degree study programmes, including micro-credentials. However, educational authorities from the other education systems in the country have not yet included this concept in their legal frameworks.

## **National Qualifications Frameworks (NQFs)**

There is a strong link between quality assurance and national qualifications frameworks (NQFs), with quality assurance playing an important role in demonstrating the relationship between higher education institutions' programmes and the qualifications framework. As a result of the extensive discussions in the MICROBOL project, it was concluded that micro-credentials should be included in the NQFs, whenever possible, and that the decision to include them needs to be made at a national level. When including micro-credentials in the NQFs, it was deemed important that the criteria for inclusion such as the size, naming, value/relevance and quality assurance procedure of the micro-credentials be determined. In addition, a learning outcomes approach to developing micro-credentials for inclusion in the NQFs was recommended (MICROBOL, 2022, p. 9).

Data from the interviews conducted for this report show that there are some countries where the discussion about the inclusion of micro-credentials in the NQFs is at an early stage. The reason for this

may be that the NQFs in these countries do not easily accommodate short courses that are part of an existing degree or lifelong learning provision, although the need to do so may have been identified. In Georgia, the National Centre for Education Quality Enhancement (NCEQE) conducted an extensive study in which 27 HEIs participated. It concluded that it is necessary to create an appropriate legal basis for the development of micro-credentials and that there is a need to reflect on their inclusion in the NQFs.

In other countries, micro-credentials are already included in the NQF. Even when they're not included, they can be easily accommodated because short courses have been provided and referenced for a long time. For instance in Malta, micro-credentials are referred to as awards in the NQF. According to the 2016 referencing report the term award 'can be used for any accredited course which does not fulfil the entire requirements of a Qualification in terms of number of credits offered.' (p. 37). In other words, awards are those learning offerings that have fewer credits than the minimum for a specific qualification at a particular level or 'in the case of VET, do not reflect the required distribution of Key Competences, Sectoral Skills and Underpinning Knowledge.' (p. 54). To indicate the level of the award, it needs to have level-related learning outcomes.

In Ireland, micro-credentials can be included in the NQF either as minor awards (diplomas and certificates), supplemental awards, or special purpose awards<sup>20</sup>. Short courses and certificates have been provided in Ireland for a long time and have been included in the NQF since its establishment in 2003.

In France, the NQF accommodates micro-credentials. The latest referencing report of the qualifications framework requires that qualifications are presented in the form of competency units called 'blocs de compétences'. This method of presentation was formalised by law in 2014 and made mandatory in 2018. These units of qualifications can be expressed in learning outcomes and validated on the basis of their identification with regard to the activities that they enable learners to master (p. 83). As such, they can be perceived as micro-credentials.

## **National registers and catalogues**

### *National register for micro-credential providers*

The MICROBOL project recommended that countries 'develop official registers of micro-credential providers at national or regional levels, or incorporate them into existing registers' (MICROBOL, 2021a, p. 5). In the survey for this report, respondents from seven countries indicated that micro-credential providers would be included in a new or separate register specifically dedicated to micro-credential providers, while another seven indicated that they would be integrated in the general list of recognised education providers. Ten respondents indicated that there are no such discussions or plans, either because such a register already exists or because there is no apparent need for it. As a reflection of the initial stages of the discussions in many countries, another seven countries indicated that they do not know what the situation in their system is like (see Fig. 2).

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<sup>20</sup> <https://www.gqi.ie/what-we-do/the-qualifications-system/national-framework-of-qualifications>



Yes, as a new/separate register specifically for micro-credential providers	7
Yes, integrated/as part of a general list of recognised education providers	7
No, because we already have a register for micro-credential providers (either separate or part of a general list of recognised education providers)	7
I don't know	7
No, because we do not see the need for it	3

*Are there discussions and/or plans regarding the development of a national register for micro-credential providers in your country?*

Source: IMINQA • Created with Datawrapper

*Figure 2: Discussions and/or plans regarding the development of a national register for micro-credential providers*

Again, in most countries, these discussions are led by the ministry of education. In some cases this is done in collaboration with other stakeholders, such as quality assurance agencies, HEIs, national agencies for qualifications and rectors' conferences.

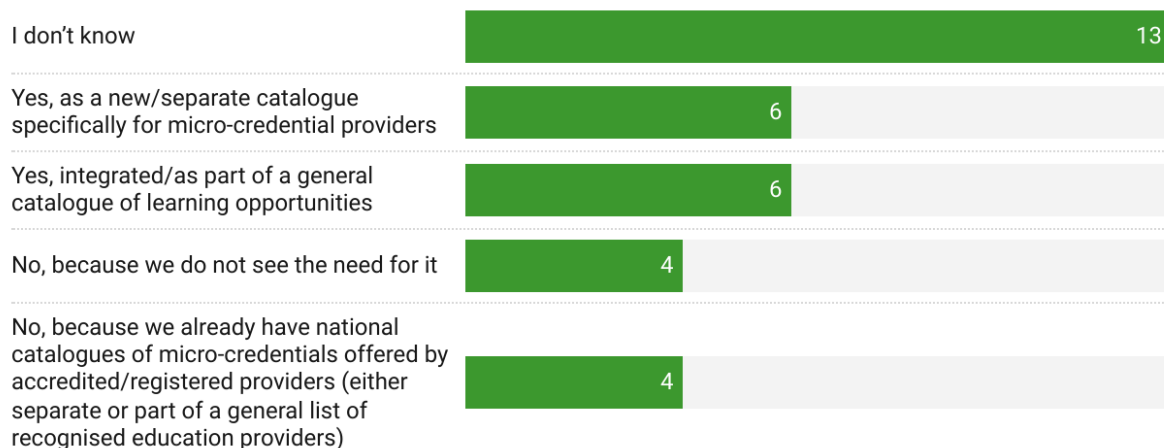
Regarding the type of providers to be included in the register, the responses given in the survey for this report vary. In some countries, these registers will include HEIs and alternative providers; in others they cover all sorts of providers offering accredited micro-credentials. In Estonia, for example, all providers interested in using public funding for their training offer, from primary education to higher education, including continuing education, will be included in the register. These can be formal education institutions, private companies, libraries, hospitals, NGOs etc. Although there is no limitation regarding the type of providers to be included, it is compulsory that they all follow the rules of the Adult Education Act.

In Sweden, there are two registers, one for HEIs and the other for higher vocational education, delivered in cooperation between education providers and employers and industry organisations. These registers are public and are designed to offer trustworthy information to learners and the larger public.

#### *National catalogues of micro-credentials offered by accredited/registered providers*

The MICROBOL recommendation called for the promotion and development of clear and transparent catalogues of existing micro-credentials offered by registered providers (MICROBOL, 2021a, p. 5). Thirteen respondents to the survey for this report said that they do not know about any discussions or plans regarding such initiatives in their country/system. Half of them gave the same answer to the question about national registers, with most of them also indicating that discussions about policies and quality assurance of micro-credentials have just started. This implies that in some countries it is simply too early to plan or discuss such catalogues. However, in twelve countries, there are discussions and/or plans regarding the development of national catalogues either specifically for micro-credentials or else by integrating them in the general catalogue of learning opportunities. These discussions are also led by the ministry of education.





Are there discussions and/or plans regarding the development of national catalogues of micro-credentials offered by accredited/registered providers?

Source: IMINQA • Created with Datawrapper

Figure 3: Discussions and/or plans regarding the development of national catalogues of micro-credentials offered by accredited/registered providers

Among the countries answering ‘no’ to this question are Sweden and Belgium/Flemish Community, which already have national catalogues of micro-credentials offered by accredited/registered providers, as well as France, which has a *National Directory of Professional Certifications* where all offers from accredited HEIs and other organisations are included. Similarly, in Hungary, there is the *Hungarian Adult Education Data Service System*, an online portal listing all short adult education programmes, including those offered by private providers. In Estonia institutions that have the right to offer micro-credentials must register each individual micro-credential programme in the Estonian Education Information System, after it has been checked by the Ministry of Education and Research for compliance with the formal requirements. In the Netherlands, a pilot initiative called *edubadges*<sup>21</sup> was launched to provide a digital certificates platform for the education and training community. *Edubadge* is an electronic certificate that provides detailed information on the content of the achieved learning outcomes and can be issued for both accredited education and extracurricular activities. In Germany, the *hoch&weit*<sup>22</sup> portal for continuing education was launched in 2022. On this portal, public and government recognised German HEIs publish information about their further education offerings. In Malta, all courses accredited by the Malta Further and Higher Education Authority are included in the national register for accredited courses with identifiable credit points.

### Quality label

This report has also explored the perceptions of HEIs and quality assurance agency representatives regarding the usage of labels demonstrating that a micro-credential has been evaluated/accredited by a quality assurance agency working in alignment with the ESG. It was found that there is an overall agreement that the existing quality assurance agency’s logos, usually displayed on HEIs’ websites, already serve as labels indicating that the institution went through an external evaluation/accreditation covering its provision. Perceptions may differ depending on whether external quality assurance is conducted at institutional or programme level. There was however an agreement that, in systems that relied more heavily on programme-level external quality assurance,

<sup>21</sup> <https://edubadges.nl/login>

<sup>22</sup> <https://hoch-und-weit.de/>

having an externally granted label for each micro-credential would not be of added value when compared to the amount of work and resources necessary for the evaluation of each micro-credential. In systems with external quality assurance at institutional level, many interviewees also questioned the need for a label dedicated to micro-credentials, which only represent a small part of the HEIs offering, when there are no individual labels for degree study programmes.

On the other hand, granting a label at the level of the provider of micro-credentials is seen as more plausible and proportionate considering the workload for both providers and quality assurance agencies.

In France, for example, there is a specific quality label for professional education, called QUALIOP1<sup>23</sup>. Only providers who are awarded this label can benefit from public funding to offer professional education modules (which can be considered as micro-credentials). In order to obtain the label, alternative providers must undergo an external quality assurance evaluation by a certifying body. On behalf of the Ministry of Labour, France Compétences is in charge of the quality system regulation for professional education and the recognition of certifying operators. HEIs accredited through external quality assurance by the two national agencies (Commission des Titres d'Ingénieur (CTI) and the High Council for the Evaluation of Research and Higher Education (Hcéres)) automatically obtain the label for their entire educational offer.

Another example is the new quality label that the Evaluation Agency of Baden-Württemberg (evalag) has been developing. This development is in line with the ambitions of the Ministry of Science, Research and the Arts of Baden-Württemberg, to increase support for further education. The development process, started in March 2022, included a number of stakeholder workshops, the creation of a new body (certification commission) and of the framework needed for conducting the certification procedures. The new label is open to state HEIs from Baden-Württemberg, but the set of quality standards for the label can also be used as a guide for other providers interested in further education.

## External quality assurance

The MICROBOL project concluded that to be fit-for-purpose and to avoid overburdening HEIs, the focus of external quality assurance should be on the institutional approach to micro-credentials and their explicit inclusion in existing or new internal quality assurance processes. Thus, the external quality assurance should ensure that HEIs offering micro-credentials have a reliable and well-built system to monitor their quality internally. This is in line with one of the core principles of the ESG, which states that the primary responsibility for the quality of provision lies with the HEIs (ESG, 2015, p. 7). This is also valid and applicable in case of alternative providers that wish to be externally assured by a quality assurance agency. Furthermore, the E4 Group<sup>24</sup> reiterated that the quality assurance agencies' role is to support HEIs in developing policies and processes for quality assurance of their provision and to ensure the public and stakeholders about their effectiveness (ENQA et al., 2020) this being also relevant for micro-credentials.

The MICROBOL survey showed that in 15 countries micro-credentials are not referred to explicitly in the national quality assurance system, but that they are implicitly covered by it (MICROBOL, 2021b, p.

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<sup>23</sup><https://travail-emploi.gouv.fr/formation-professionnelle/acteurs-cadre-et-qualite-de-la-formation-professionnelle/article/qualiopi-marque-de-certification-qualite-des-prestataires-de-formation>

<sup>24</sup> The E4 Group consists of stakeholder organisations representing quality assurance agencies (ENQA), universities (EUA), professional higher education institutions (EURASHE) and students (ESU). The E4 Group are the main authors of the ESG 2015.



34). Regarding the development of a quality assurance approach for micro-credentials, results from the survey for this report show that in nineteen countries quality assurance agencies have not been developing such an approach, while eleven are doing so.



*Has (have) the quality assurance agency(ies) in your country been developing a quality assurance approach for micro-credentials?*

Source: IMINQA • Created with Datawrapper

Figure 4: Development of a quality assurance approach for micro-credentials

Data gathered from interviews with quality assurance agencies for this report indicate that in most systems, the quality assurance of micro-credentials is or can be embedded in the existing external quality assurance procedures (institutional or programme accreditation); thus, no specific approach to micro-credentials is needed. A survey conducted by the working group on quality assurance of micro-credentials (ENQA WG), also found that over half of the respondents (54.7% of 53 responding agencies) rely on internal quality assurance arrangements in HEIs to cover micro-credentials, either fully (28.1%) or partially (26.6%) (ENQA forthcoming publication, 2023).

## Relevance of the ESG

The MICROBOL project concluded that the ESG are also applicable to micro-credentials (MICROBOL, 2022, p.7). The survey conducted by the ENQA WG also found that all quality assurance agencies/organisations answering the survey (53) find the ESG Part I (Internal quality assurance) and Part II (External quality assurance) relevant for micro-credentials. In addition, the group emphasised that as the ESG provide a generic baseline, they may need to be adapted to the specific context of micro-credentials, thus concluding that the question is how rather than whether the ESG apply to micro-credentials (ENQA forthcoming publication, 2023).

In its report, the ENQA WG analysed each standard of the ESG Part I and II and elaborated on the specificities for the application of each one to micro-credentials, focusing on the eventual additional elements that need to be taken into consideration, but assuming that the standard has already been met by the provider in relation to the provision of degree study programmes. It emphasised that transparency regarding the work on micro-credentials, engagement with various stakeholders, careful consideration of lifelong learning provision and the links with the professional/vocational sector are of high importance (ENQA forthcoming publication, 2023).

## External institutional and programme level evaluation

Most quality assurance agencies in the EHEA conduct mandatory institutional (76%) and programme level (70%) evaluations on a regular basis. In almost all EHEA countries the approach to external quality assurance is a combination of these two approaches (ENQA forthcoming publication QA-FIT project, 2023). Thus, when the focus of the external quality assurance lies on the institutional level, the internal quality assurance system covering the entire provision of an institution, including micro-credentials as part of lifelong learning, is evaluated. In cases when the external quality assurance focuses on one study programme at a time, taking into account the contents of study and modes of delivery, modules or courses extracted from the programmes and offered as micro-credentials are automatically evaluated.

For example, in the flexible higher education system of the Flemish Community, Belgium, where regular courses that are part of a programme, could be considered as micro-credentials, the existing external quality assurance system covers them. In Switzerland, institutional accreditation (legally obligatory for all HEIs in the country) focuses on the internal quality assurance system covering all provision (including lifelong learning, research and services to society) and so also micro-credentials. In Sweden the fundamental characteristic of the higher education system is that it is course-based, meaning that the degrees of the three cycles are composed of self-standing courses/modules that are more or less stackable towards a traditional degree (often, but not necessarily, part of a programme). If considered as micro-credentials, these are covered by the external institutional level evaluation.

Considering HEIs' lifelong learning provision, it is important to note that not all quality assurance agencies evaluate whether the internal quality assurance system addresses this provision. Recent data from the QA-FIT project<sup>25</sup> shows that 76% of the quality assurance agencies evaluate lifelong learning to a large (26%) or to some extent (50%) (ENQA forthcoming publication QA-FIT project, 2023).

Data from interviews conducted for this report further show that in some countries, external quality assurance at the institutional level covers lifelong learning provision by including a specific standard for this kind of provision. For example, the Agency for Science and Higher Education in Croatia (AZVO) has, as part of its institutional evaluation approach, a standard dedicated to lifelong learning provision. This evaluates, among other aspects, the modes of delivery of lifelong learning programmes, their alignment with the HEI's strategic goals and how they respond to societal needs. Similarly, the Estonian Quality Agency for Education (HAKA) has a standard, in the institutional evaluation procedure, dedicated to evaluating the internal quality assurance of lifelong learning. Another example is the approach of evalag to the quality assurance of micro-credentials, which only focuses on micro-credentials provided as part of lifelong learning. evalag offers two types of certification procedures: an institutional and a programme certification. The overarching objective of these procedures is quality assurance and quality enhancement of HEIs and their lifelong learning study programmes.

Since the role of external quality assurance is to ensure that micro-credentials are adequately integrated into the internal quality assurance system of HEIs, many quality assurance agencies plan to address lifelong learning provision more thoroughly in their institutional level evaluation procedures. Those agencies that already look at the internal quality assurance of lifelong learning provision plan to revise it and to add more relevant criteria, relating for example to stackability and portability. Those agencies that cover internal quality assurance of lifelong learning provision, but only at a general level, plan to put more emphasis on addressing the provision of micro-credentials. Lastly, several agencies that do not cover internal quality assurance of lifelong learning plan to add it to their institutional evaluation procedure. For example, the Catalan University Quality Assurance Agency (AQU Catalunya) will revise the methodology designed for the evaluation of the internal quality assurance systems to include lifelong learning provision, which subsequently includes micro-credentials. In this way, the system will have a more scalable process that will allow for the accreditation of programmes in an aggregated way, avoiding the external assessment of each programme individually.

It should also be noted that HEIs offer or plan to offer lifelong learning provision that does not bear credits. This provision, however, is not considered as 'micro-credential' in the context of this report. After all, one of the principles of the Council Recommendation for the design and issuance of micro-credentials by HEIs is for them to be expressed in ECTS. Furthermore, in some systems, quality assurance agencies have a limited scope regarding the evaluation of non-credit-bearing lifelong

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<sup>25</sup> <https://www.enqa.eu/projects/quality-assurance-fit-for-the-future-ga-fit/>



learning provision. For instance, QAA's evaluations are linked to the requirements of the relevant funding or regulatory bodies for the different nations of the UK, which are generally focused on the award of academic credit and qualifications. As a consequence, non-credit-bearing provision is usually out of scope, unless it constitutes an integrated part of a larger credential or qualification.

In Georgia, there is no external quality assurance procedure for internal quality assurance of lifelong learning provision as most of this provision is non-credit-bearing.

### **External evaluation of each micro-credential**

The MICROBOL project recommended that programme level evaluation should not be encouraged for each micro-credential, as it is too elaborate for such small volumes of learning (MICROBOL, 2021a, p. 4). It is also considered that programme level evaluation would not be suitable for micro-credentials because they are expected to be updated frequently in order to respond to societal and learners' needs (MICROBOL, 2022, p.7).

There are however some quality assurance agencies that conduct evaluations of micro-credentials by adopting the same standards and procedures used in programme accreditation. For example, in Malta, the *Internal and External Quality Assurance in Further and Higher Education*<sup>26</sup> outlines eleven internal quality assurance standards to be evaluated by the external quality assurance agency. These apply to further, higher and adult formal provision in Malta regardless of the mode of study or place of delivery. Alternative providers can also apply to be externally evaluated by MFHEA and to go through the same evaluation process encompassing the eleven standards if they want to use the EHEA tools.

In Ireland, Quality and Qualifications Ireland (QQI) adapted its process for the validation of special purpose and minor award programmes (which was derived from the process applied to full programmes) and reduced it to reflect the scale of micro-credentials, their origin (most being part of previously validated programmes) and the applicability of the validation criteria to programmes of different sizes. This process was piloted, evaluated and is now mainstreamed and extended to new programmes (ENQA forthcoming publication, 2023).

When asked whether they would consider evaluating each micro-credential individually, most quality assurance agencies participating in the research for this report responded negatively. Primarily because this would require a lot of human and other resources, but also because HEIs have been through several rounds of institutional and programme level evaluations. This means that, in most of the cases, they have sound internal quality assurance systems and procedures in place that can cover micro-credentials as well.

### **External evaluation of the micro-credentials offered by alternative providers**

In some EHEA countries, for example Estonia, Malta, France and Moldova, there are quality assurance agencies/organisations externally evaluating alternative providers and/or their provision of micro-credentials, thus integrating alternative providers in the national quality assurance system. For instance, in Estonia, at the request of the Ministry of Education and Research, HAKA developed a quality assessment system for the accreditation of study programmes in continuing education. Since its implementation, more than 100 non-formal education institutions have been assessed. This system, however, does not imply that each micro-credential/programme will be evaluated separately,

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<sup>26</sup> <https://mfhea.mt/wp-content/uploads/2021/03/Internal-and-External-Quality-Assurance-in-Further-and-Higher-Education-1.pdf>

as is the case for study programme groups<sup>27</sup>. This reduces the workload and resources required for the evaluation, if the provider has met the prior condition for using this approach.

Despite these examples, most of the quality assurance agencies that participated in interviews for this report are not planning to evaluate alternative providers nor their provision of micro-credentials. The main reasons are that 1) there is no legal ground for such activity and the agencies have no mandate and 2) the workload for the agency staff would be unmanageable. However, quality assurance agencies agree that it is beneficial for HEIs to partner with alternative providers when developing and offering micro-credentials, not only to make sure that the needs and expertise of employers are taken into account, but also to guarantee the quality of provision. In most of such cases, the body awarding the micro-credential is the HEI and as such it bears the responsibility for assuring their quality.

In conclusion, the external quality assurance approach for micro-credentials is highly dependent on the context of the higher education system, the remit of the quality assurance agency(ies) and the existence of other organisations covering the offerings of alternative providers. Data clearly show that quality assurance agencies tend to carefully consider the existing quality assurance approaches and to integrate micro-credential provision and alternative providers (when applicable) in the existing system by developing or adapting standards and criteria. There is also a strong agreement among the agencies that the external quality assurance procedures should be flexible and the regulation should be limited and light-touch, so as to allow for a range of practices, creativity and innovation.

Looking forward, the ENQA WG concluded that the attention given to micro-credentials may lead to agencies and national authorities revisiting their remit and profile and potentially going beyond the evaluation of higher education only, a finding confirmed by some of the above examples. The group identified three potential areas of development: (1) developing the portfolio of external quality assurance activities beyond higher education providers; (2) developing the portfolio of external quality assurance activities beyond the national contexts into more cross-border or transnational activity; (3) developing the role of the quality assurance agencies towards an even more supportive role to providers, where collaborations between various types of providers could be effectively facilitated or intermediated by the quality assurance agency. (ENQA forthcoming publication, 2023).

## Internal quality assurance

### Reasons to offer micro-credentials

The main reasons for HEIs to offer micro-credentials may be to increase their visibility and reputation, by widening their geographical reach and attracting more diverse groups of students, to increase their responsiveness to students' and labour markets' demands for reskilling and upskilling in a shorter time than traditional degree programmes, to experiment with new pedagogies and technologies, and to generate additional income or reduce costs (Jansen and Schuwer, 2015, p. 5). From the evidence examined for this report it emerges that the number of HEIs offering or planning to offer micro-credentials is increasing. For example, data from a study conducted by the German Academic Exchange Service (DAAD) show that most German HEIs are already offering micro-credentials, plan to introduce them or identify them as key. This increase, 60% compared to last year's 44%, is seen among both universities and universities of applied sciences (DAAD, 2023, p.2).

Furthermore, data from interviews conducted for this report confirm that some of the HEIs' offerings that are *de facto* micro-credentials, even if they may be called differently, can be open to enrolled

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<sup>27</sup> <https://haka.ee/en/universities/quality-assessment-study-programme-group/>

students as electives to complement their study programmes. Most HEIs, however, offer micro-credentials as part of their lifelong learning provision, thus relating them to their institutional third mission. For example, the [University of Ghent](#) offers micro-credentials with the aim to ‘enable individuals to acquire, update and improve the knowledge, skills and competences they need to thrive in an evolving society; enhance the flexibility and transparency of the lifelong learning offer; foster inclusiveness and equal opportunities, and facilitate access to lifelong learning; and achieve the 2030 target of an annual 60% participation rate of adults in training as stipulated in the European Pillar of Social Rights action plan’ (Ghent University, 2022, p.1).

In general, it can be seen that micro-credentials can be offered 1) on demand from employers of a specific field as an upskilling opportunity, 2) as a way for learners to gain experience with higher education and as a support mechanism for their access to higher education study programmes, including also the increase in permeability and connection between higher education, vocation education, and non-formal and informal learning, or 3) as a way for learners to explore different study fields before applying for a study programme and once admitted, to be exempted from those courses. For instance, the [University of Limerick](#) (Ireland) and [Tallinn University](#) (Estonia) offer micro-credentials as preparatory studies (be)for(e) entering a study programme.

There are also many opportunities for VET providers to offer micro-credentials. In many countries the modularisation of VET programmes, as with higher education programmes, sets the scene for the introduction and expansion of micro-credentials (Cedefop, 2022, p. 36).

### **Role of institutional leadership and the decision-making process**

Many institutional initiatives related to the development of micro-credentials are bottom-up, but HEIs’ representatives recognise the importance of strategic planning, guidance, support and a sound decision-making process in developing and offering micro-credentials. For example, at the [University of Limerick](#), the establishment of micro-credentials is viewed as a strategic priority. To support this priority the institution’s Executive Committee established the *Micro-credential Advisory Group* which also covers quality assurance of micro-credentials.

The role of institutional leadership is also important in appointing staff to contribute to national or international projects on micro-credentials, and in involving the entire institutional community in consultations and activities related to micro-credentials, with the aim of informing them and engaging the whole community in developing a common vision.

All HEIs piloting micro-credentials that contributed to this report have a decision-making process in place, which is planned to be evaluated and updated as required at the end of the pilot project. Such a process usually involves different decision-making bodies at different management levels. In most cases, this involves a faculty council or academic steering committee which evaluates, advises and approves the micro-credential proposal at faculty level. The proposal may then be evaluated by a lifelong learning committee/commission which, among other things, evaluates how the micro-credential content is aligned with the needs of learners and society, the interdisciplinary aspects, whether it involves other stakeholders, and the mode of delivery. In some cases, as part of the process, there is an evaluation conducted by the internal quality assurance department which assesses the formal criteria such as ECTS, learning outcomes and assessment methods. Final approval may be required by a higher level body in the HEI’s governance structure.

## Micro-credential offer

Learners interested in the uptake of micro-credentials are very diverse. They usually have different backgrounds and profiles and differ in age, experience and knowledge. According to the research for this report, one could categorise them as enrolled students (those who are already enrolled in a study programme) or lifelong learners (those who usually enrol in micro-credentials with the aim to upskill, reskill or gain access to higher education). The latter group typically includes more diverse learners than those enrolled in degree study programmes.

Interviewees for this report highlighted that besides addressing the labour market needs, the purpose(s) for offering micro-credentials and the profile of learners need to be carefully considered when designing and developing micro-credentials. For example, if a micro-credential is offered with the aim to attract and include learners from disadvantaged social backgrounds, who may have no degree, the course developers need to carefully consider, among other things, the teaching approach, mode of delivery, and admission requirements, which may not include prior knowledge of the topic or a previously obtained degree. They may also consider the costs of such courses and the funding opportunities that the learners could access. This example demonstrates that not all micro-credentials can meet all possible purposes or be designed in a similar manner.

This is even more relevant when it comes to the inclusion of learners from different social backgrounds. The data from the OECD Survey of Adult Skills show that adults who have a higher education degree and higher information processing skills, are of prime working age (25-54) and are employed in a larger firm with a higher income, are more likely to participate in non-formal education and training than their peers with opposite profiles (Kato, Galán-Muros and Weko, 2020, p.23).

There are various approaches HEIs adopt when offering micro-credentials. Data from the interviews conducted for this report indicate that most institutions offer them either by unbundling existing programmes or by developing stand-alone courses. Many institutions see the unbundling model as an easier one because it can accommodate certain stackability paths. Moreover, these kind of micro-credentials are already covered by the existing internal and external quality assurance approaches.

Interviewees from HEIs for an OECD study have also indicated that the two main models for offering micro-credentials are 1) building on the existing offerings and 2) building completely new offerings through partnerships (OECD, 2021, p.3). The latter can be developed by institutions individually or in partnership with other HEIs, labour market representatives or learning platform providers. For each of these two models there are particularities the internal quality assurance system needs to consider.

### Unbundling existing programmes

Study programmes offered by HEIs are quality assured through established procedures (internal and external) and meet the mandatory elements to describe a micro-credential set in the Council Recommendation. In countries where higher education legislation allows for modularisation of study programmes<sup>28</sup>, some modules/courses can be offered as micro-credentials. Thus, these modules/courses do not require additional quality assurance procedures to the internal and external ones that cover them already. This is applicable in most of the HEIs that participated in the study. At Charles University (Czech Republic), which is piloting micro-credentials, it has been discussed, however, that micro-credentials originating from existing programmes would not be covered

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<sup>28</sup> Flexible learning paths/modularisation is where a student can co-construct the learning path by combining modules from different programmes.

automatically by the existing internal quality assurance approach for programmes, but by the internal quality assurance for lifelong learning, possibly using a slightly simplified approach.

Other HEIs indicated that since these modules/courses are part of a coherent study programme built with a certain end result in mind, they developed a strategic approach for deciding which modules/courses could be offered as micro-credentials, recognising that not all may be appropriate to be unbundled in this way. The aim of this approach is also to determine whether these micro-credentials best serve the set aims and needs of the labour market and learners, and if they correspond to target learners' profiles. When considering these aspects, the mentioned modules/courses may go through some modifications related to the teaching approach, mode of delivery, course materials, learning outcomes and student support before being offered as a micro-credential. Some institutions conduct large studies/analyses of their existing programmes with the aim to identify which parts could respond best to the needs of the labour market and the target groups of learners. There are also institutions, such as the [University of Padova](#) (Italy) that plan to offer micro-credentials only as part of their lifelong learning provision instead of unbundling existing programmes.

### **Standalone micro-credentials**

Standalone micro-credentials are usually part of the lifelong learning provision. Some interviewees indicated that this type of provision is covered by the internal quality assurance approach for lifelong learning. This approach is based on the ESG, but in most cases it is lighter-touch than the internal quality assurance for degree study programmes, mainly with regards to reporting. Some other institutions apply the same quality assurance approach both to study programmes and the lifelong learning provision. Others are in the process of revising the internal quality assurance approach of lifelong learning to include particular criteria for micro-credentials.

Considering that micro-credentials are focused on specific skills and knowledge, they require more agility in design, approval, delivery and review mechanisms in order to respond to the changing labour market needs. This is even more evident in case of standalone micro-credentials (ENQA forthcoming publication, 2023). The German Rectors' Conference also points out that the focus should be on promoting dynamic design processes in micro-credentials, which should not be thwarted from the outset by rigid quality assurance approaches (HRK, 2020, p.10).

The standalone micro-credentials are often developed on demand by the labour market representatives and emerge from areas requiring attention in terms of upskilling and responding to the labour market needs. Thus, they tend to be developed in partnerships with labour market representatives. However, they can also be a combination of lifelong learning courses and courses based on existing study programmes as for example some of the micro-credentials offered by [Tallinn University](#) and [Ghent University](#).

It is important to emphasise that HEIs do not consider all their lifelong learning provision as standalone micro-credentials. Many of them still provide lifelong learning courses with no indication of the workload in ECTS or NQF level, which may exclude them from being formally considered as micro-credentials, depending on the definition used. For example, the [Ivane Javakishvili Tbilisi State University](#) (Georgia) offers credit-bearing as well as non-credit-bearing micro-credentials and some courses do not provide a certificate either. All HEIs interviewed for this report, however, emphasised that the learning outcomes approach is applied to all lifelong learning provision.

## *Stackability and Recognition of prior learning (RPL)<sup>29</sup>*

Stackability means that micro-credentials can be accumulated and grouped over time, building into a larger, more recognisable credential (Kazin and Clerkin, 2018, p. 7). Most of the interviewed representatives of HEIs indicated that stackability is of interest to their institutions, but that the internal discussions are at a very early stage. However, they highlighted that the main conclusions drawn from the discussions with academics and faculty management are that stackability should not lead to acquiring a full degree simply by stacking acquired micro-credentials, and that clear rules in terms of the maximum number of ECTS that can be stacked towards a degree need to be set.

It has also emerged from interviews that the stackability of micro-credentials within the same HEI is seen as more straightforward than the stackability of micro-credentials obtained at different institutions (and even different countries) or the stackability that requires recognition of non-formal or informal learning. HEIs can also form partnerships and recognise and stack micro-credentials obtained within this partnership. However, if the micro-credential is not considered as a qualification by the rules of the system in which the recognising institution is located, then, in some cases, the institution can recognise only up to a limited number of ECTS towards a degree programme.

The situation can also get complicated when stacking micro-credentials obtained through non-formal or informal learning with existing study programmes or lifelong learning courses as this requires a well-established RPL/validation procedure. Some institutions recognise the importance of RPL and take action to strengthen the existing procedures. For instance, Graz University Of Technology (Austria) has set up a task force focusing on RPL for all study areas (lifelong learning and regular study programmes). Another example is Ireland where there is the *National Recognition of Prior Learning (RPL) in Higher Education Project*<sup>30</sup>. It aims, among other things, to embed, streamline and promote RPL, particularly the recognition of non-formal and informal learning, across the sector in a manner that is coherent and consistent. It also plans to enhance the sector's capacity to conduct RPL by developing useful tools, materials, resources and professional development opportunities for staff.

In most cases the RPL procedure is left to the discretion of each faculty or the person responsible for the study programme. Therefore, many HEIs see the need to streamline this process across the institution and to have it monitored by the internal quality assurance system in order to improve it and to ensure consistency.

Regarding external quality assurance, some agencies indicated that recognition, including RPL, of micro-credentials is usually covered by the institutional quality assurance approach. Although there is a standard dedicated to it, not a lot of focus is put on this topic. At the same time, there are agencies that do not cover this aspect at all, but intend to change this by developing related standards for the next external evaluation round.

The German Rectors' Conference points to the special role of HEIs which embed micro-credentials acquired outside the institution in the institutions' internal quality assurance system of study programmes. They do so by recognising the external micro-credentials and as such to award credits

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<sup>29</sup> In the context of this report, the term recognition of prior learning refers to the definition contained in the Council of the European Union Recommendation of 20 December 2012 on the validation of non-formal and informal learning: "Validation means a process of confirmation by an authorised body that an individual has acquired learning outcomes measured against a relevant standard and consists of the following four distinct phases: 1. IDENTIFICATION through dialogue of particular experiences of an individual; 2. DOCUMENTATION to make visible the individual's experiences; 3. a formal ASSESSMENT of these experiences; and 4. CERTIFICATION of the results of the assessment which may lead to a partial or full qualification".

<sup>30</sup> <https://www.priorlearning.ie/about>



for them. HEIs, according to the Rectors' Conference, thus not only have a role as providers, but also as quality-assuring gatekeepers for external micro-credentials (HRK, 2020, pp.8-9).

### *Cooperation in offering micro-credentials*

As indicated above, it is considered that micro-credentials can be particularly beneficial when developed and offered in collaboration with other stakeholders such as other HEIs, alternative providers, labour market representatives or online learning platforms.

The European University Alliances are seen to be a recent stimulus for the development of micro-credentials, as these have been leading to more joint education provision including micro-credentials (while recognising that many other forms of international cooperation exist outside of the European Universities Initiative). Most of the HEIs interviewed for this report are part of such an Alliance and the majority of them indicated that micro-credentials are part of their intended joint provision. HEIs perceive the Alliance as a test bed for micro-credential development where they can learn about the development of a joint provision (the possible challenges and ways to overcome different regulations) and their impact on mobility, or where they can experiment with different modes of delivery and put in place quality assurance and recognition procedures. Alliances are also seen as a place where one can share and learn from other institutions' experience and where this knowledge can be transferred to their own contexts.

Collaboration of HEIs within the same (national) system has also been very helpful and informative for many institutions. There are some examples of such collaborations specifically in the field of lifelong learning, which also focus on micro-credentials. Among these are the *Estonian Network for University Continuing Education* (ENUCE)<sup>31</sup> and the *Italian University Network for Lifelong Learning* (RUIAP)<sup>32</sup>. In Belgium, also, three universities (VUB, UAntwerp and Ghent University) work together on strengthening lifelong learning in Flanders, with projects including multiple joint training initiatives within Nova Academy<sup>33</sup>. They aim to launch a joint platform that publishes information about these HEIs' offerings, allowing anyone to search for a course.

The model of collaboration between HEIs and labour market representatives differs from one case to another. They may 1) develop and design micro-credentials in collaboration, 2) agree that the micro-credential is taught by experts from industry, 3) support the development of professional mentoring systems through which learners can be linked with workers in a given field, 4) decide to include work placements as a compulsory element of the credential, 5) agree to allow those who completed the course to bypass the first stage of their hiring process (OECD, 2023, p.13). Most HEIs have well-established procedures in place to set up partnerships with various entities and this includes the internal quality assurance processes.

### **Internal quality assurance approach and criteria**

As already mentioned, HEIs and other providers of micro-credentials have the primary responsibility for their learning provision and processes. Therefore, according to recommendations developed in the MICROBOL project, providers are expected to put in place explicit quality assurance policies and processes corresponding to the expectations set out in Part I of the ESG, to provide transparent information about these and to include learners in all steps of the development, implementation and evaluation of micro-credentials (MICROBOL, 2022, p. 7).

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<sup>31</sup> <http://eatk.edu.ee/home-0?lang=en>

<sup>32</sup> <https://www.ruiap.it/>

<sup>33</sup> <https://nova-academy.be/en/about-nova-academy>



The overall agreement is that the ESG Part I is applicable to micro-credentials. However, it is important to consider the specific features of micro-credentials when applying each standard (ENQA forthcoming publication, 2023).

The internal quality assurance of micro-credentials stems from the models for offering micro-credentials. Below is an outline of the two main models, including the internal quality assurance approach for each of them.

1. Micro-credentials that are the result of unbundling existing programmes are covered by the internal QA programme evaluation procedure. Consequently, most HEIs consider that there is no need for additional internal accreditation for each micro-credential. In case an additional accreditation is needed, the procedure can be very light.

Micro-credentials offered via this model meet the main quality assurance criteria such as well-defined learning outcomes and workload, a transparent assessment method, the transparency of information and so on. However, in case of micro-credentials, there are some elements that need to be carefully considered, such as how and whether they respond to the needs of the labour market and the learner target group, how they align with the institutional goals set for this type of provision and what constitutes the optimal mode of delivery.

As discussed above, HEIs tend to have a process in place allowing them to decide which modules/courses from existing programmes are suitable to be offered as micro-credentials. This process is also part of the internal quality assurance approach.

2. Standalone micro-credentials are usually offered as part of the HEI's lifelong learning provision and this provision is covered by the internal quality assurance of lifelong learning which can be lighter or the same as the internal quality assurance for degree study programmes. However, it is important that HEIs revisit or develop the approach to internal quality assurance of lifelong learning. They should consider how micro-credentials and their specific elements, such as the approval process, the *on demand* and in partnership developmental process, the main criteria and stackability can be integrated in their approach and in the cyclical reviews.

All representatives of HEIs and quality assurance agencies interviewed for this report indicated that important criteria for internal quality assurance of micro-credentials are well-defined learning outcomes, transparent assessment methods and information transparency. However, the same was not true of the workload expressed in ECTS<sup>34</sup>/ECVET<sup>35</sup>. This may be explained by two factors 1) most higher education systems in the EHEA countries still have to decide on the optimal range of ECTS/ECVET for micro-credentials 2) not all micro-credentials that are part of the lifelong learning provision are considered to require expression in ECTS/ECVET at the moment. The general trend appears to be that most HEIs consider the range from 1 or 3 to 30 ECTS when piloting micro-credentials. However, they ultimately deem the optimal range to be 5 to 15 or 19 ECTS.

For example, Ghent University (Belgium) established a minimum of 3 ECTS, whereas the University of Rijeka (Croatia) decided to opt for the 10-30 ECTS range within a pilot project. Graz University of Technology (Austria) has a well-established structure for the continuing education offer whereby the shorter continuing education university programmes with no academic degree are within the 30-60 ECTS range. All provision with fewer than 30 ECTS called 'university courses' could be offered as micro-credentials.

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<sup>34</sup> <https://ehea.info/page-tools>

<sup>35</sup> <https://www.cedefop.europa.eu/en/projects/european-credit-system-vocational-education-and-training-ecvet>





In some cases the decision on the range of ECTS/ECVET for micro-credentials is taken at system level. In Ireland for instance, the range is established at 0-30 ECTS. However HEIs are free to define and narrow that range for their own institution according to what best suits their provision and practices.

Among other criteria specified by HEIs are: indication of NQF level, well trained teaching staff in micro-credential delivery, well trained administrative staff, interdisciplinarity, suitability of course content and learning and teaching methods to achieve the intended learning outcomes, accessibility of learning resources, defined learner target group, quality of partnerships, how (well) the learner expectations are met and learner feedback.

There is a general agreement that the internal quality assurance approach to micro-credentials needs to be light, agile and flexible, so as not to burden the academic and administrative staff and to allow for a fast response to the changing needs of learners and the labour market. Furthermore, the internal quality assurance approach should include a process of approval of micro-credentials, as well as considerations for the improvement or expansion of the existing information system and IT infrastructure, so as to improve the time efficiency of reporting and other administrative tasks.

## Alternative providers of micro-credentials

Micro-credentials are offered by a large number and by various kinds of alternative providers. Data show that the number of micro-credentials offered through learning platforms has been growing very fast. Class Central, an aggregator of online courses, indicates that the number of micro-credentials offered on five major learning platforms increased from around 600 in 2018 to 1900 in 2022 (OECD, 2023, p.2).

The quality of micro-credentials offered by alternative providers (as standalone providers, not in cooperation with HEIs) has been a topic of discussion within the higher education community. Learners may wish to have these micro-credentials recognised for the purpose of access to higher education or for their contribution to a higher education qualification. Since the ESG apply to all higher education offered in the EHEA, in whatever format, duration or mode of delivery, they can be used by HEIs and alternative providers alike, if they deliver micro-credentials on a higher education level. Although they are usually not required to do so, alternative providers may also establish internal quality assurance arrangements that are compatible with the ESG (MICROBOL, 2022, p.7).

From the few interviews conducted with alternative providers as part of the research for this report, it is clear that they are interested in being involved in various activities and discussions related to micro-credentials. More specifically, they are looking to assure their quality and to facilitate their recognition. The public employment service of Flanders VDAB (Vlaamse Dienst voor Arbeidsbemiddeling en Beroepsopleiding), for example, is involved in the discussions on this topic, led by the Flemish Ministry of Education and Training. They consider these to be very useful for the further development of their provision. Even though VDAB has a quality management system for the entire organisation, as well as a set of quality criteria for potential VDAB partners, it plans to start a project focusing on the quality assurance of its trainings, aiming to develop a set of shared quality criteria, including a system of continuous evaluation and data collection.

The interviews with alternative providers show that the qualitative criteria for their offerings are largely focused on meeting the needs of the labour market and the target group of learners. They also publish transparent information about their provision and the learning outcomes as this is seen as a means to inform and attract learners. However, not all of them conduct an assessment of the learners'



knowledge at the end of the course nor do they have a continuous monitoring of their provision in place.

In the EHEA there are a few quality assurance agencies evaluating the offerings of alternative providers, that certify them using a set of standards and criteria based on the ESG. Among these are the National Agency for Quality Assurance in Education and Research (ANACEC), [Republic of Moldova](#) and MFHEA, [Malta](#). However, a worry shared by both agencies is that micro-credentials issued by these providers may not be recognised outside of their own higher education systems because of a lack of trust. Despite this, two alternative providers from Malta interviewed for this report highlighted the benefits of going through the accreditation process offered by MFHEA, both in terms of the recommendations for improvements that were received as well as for the signal it gives as to the quality of the training they offer, which they believe in turn reflects well on the company as a whole.

Another example from the agency perspective is the [Estonian](#) agency (HAKA) that developed a quality assurance assessment procedure for the study programme groups in continuing education. This procedure is applicable to non-formal education institutions (public organisations, private companies, professional organisations, etc.) which offer 80% of continuing education in Estonia. The assessment focuses on the core processes of continuing education applied at provider level: 1) study programme and study programme development 2) learning and teaching 3) teaching staff and 4) resources (ENQA forthcoming publication, 2023). Based on the results of the evaluation, evaluated micro-credentials in a given study programme group are listed in the Estonian Education Information System and the provider receives state funding.

As the discussion around quality assurance of micro-credentials offered by alternative providers continues, a key theme will likely explore the benefits for providers to engage in an approach that is rooted in the formal higher education sector. Reputation, enhancement and access to funding are some of the motivations identified in the interviews conducted for this report.



## Conclusion

Micro-credentials are a topic of high interest for policy makers, quality assurance agencies, HEIs, alternative providers and other higher education and vocational education stakeholders. There are numerous activities and initiatives taking place in the EHEA countries which aim to define and regulate this kind of provision. The level of regulation, however, needs to be well balanced and considerate of the role of micro-credentials in the overall higher education, VET and continuous education provision. It should not be too prescriptive, so as to allow for innovation and flexibility.

Micro-credentials are not a new phenomenon. HEIs and alternative providers have been offering them for a long time. The novelty is related to 1) the increased use of the term 'micro-credentials', that tends to encompass many different terms for the short learning provision in use in the EHEA countries and 2) the desire to standardise micro-credential features to enhance their quality, recognition, portability, relevance and use. Therefore, many countries have the required infrastructure in place to accommodate micro-credential development and provision.

The results of the research for this report and the working group discussions indicate that many countries, quality assurance agencies and HEIs are engaged in discussions and initiatives to explore the role and regulation of micro-credentials in their national context. However, it is clear that not all countries need to revise and change their legislation or quality assurance system as the existing mechanisms already accommodate micro-credentials. Furthermore, the ongoing activities and micro-credentials' pilots will play an important role in drawing conclusions on what works and what does not and this may have a spill-over effect on the quality of the overall provision of the HEIs.

Micro-credentials are perceived to be mainly part of the lifelong learning provision and, as such, they complement conventional higher education qualifications. Therefore, in most of the EHEA countries, the discussion around micro-credentials puts an increased emphasis and importance on the lifelong learning provision and on the third mission of HEIs.

Various discussions and studies, including this one, reached the conclusion that the ESG are also applicable to micro-credentials. This means that the focus of the external quality assurance should be on the institutional approach to micro-credentials and their explicit inclusion in the existing internal quality assurance procedures, whilst the main responsibility for quality assuring them will remain with the providers. However, providers need to consider how the ESG apply to micro-credentials and their particularities.

Lastly, partnerships with labour market actors are seen as very important in order to respond to their needs and those of the learners and to ensure the uptake of and trust in micro-credentials. It is generally agreed that these stakeholder groups are the primary benefactors of micro-credentials and therefore need to be closely involved in determining the fitness-for-purpose of the educational outcomes.



## Annex 1 - Organisations who participated in the interviews

### Quality assurance agencies

Agency for Science and Higher Education (ASHE) – Croatia

Catalan University Quality Assurance Agency (AQU Catalunya) – Spain

Commission des Titres d'Ingénieur (CTI) - France

Estonian Quality Agency for Education (HAKA) - Estonia

Evaluation Agency of Baden-Württemberg (evalag) – Germany

German Accreditation Council (GAC) - Germany

Hungarian Accreditation Committee (MAB) – Hungary

Malta Further and Higher Education Authority (MFHEA) - Malta

National Agency for Quality Assurance in Education and Research (ANACEC) – Republic of Moldova

Quality Assurance Agency for Higher Education (QAA) – the UK

Slovenian Quality Assurance Agency for Higher Education (SQAA/NAKVIS) - Slovenia

The Swedish Higher Education Authority (UKÄ) – Sweden

### Higher education institutions (HEIs)

Autonomous University of Barcelona – Spain

CESI Graduate School of Engineering - France

Charles University - Czech Republic

Ghent University – Belgium

Graz University of Technology - Austria

Grenoble INP-Pagora - France

Ivane Javakishvili Tbilisi State University - Georgia

Open University of Catalonia – Spain

Széchenyi István University – Hungary

Tallinn University - Estonia

University of Innsbruck - Austria

University of Limerick - Ireland

University of Padua – Italy

University of Rijeka - Croatia

### Other organisations

Dhalia Real Estate Institution – Malta



France Compétences – France

Franks Make-Up Academy – Malta

German Academic Exchange Service (DAAD) – Germany

Orac – Hungary

Vlaamse Dienst voor Arbeidsbemiddeling en Beroepsopleiding (VDAB) – Belgium



## References

Cedefop, 2022, Micro-credentials for labour market education and training: first look at mapping micro-credentials in European labour-market-related education, training and learning: take-up, characteristics and functions. Luxembourg: Publications Office. Cedefop research paper, No 87. <http://data.europa.eu/doi/10.2801/351271> (accessed 18/01/2023).

Council Recommendation on a European approach to micro-credentials for lifelong learning and employability, 2022, <https://data.consilium.europa.eu/doc/document/ST-9237-2022-INIT/en/pdf> (accessed 18/01/2023).

ENQA working group, 2023, Quality assurance of micro-credentials, Expectations within the context of the ESG, *forthcoming publication*.

European Association for Quality Assurance in Higher Education (ENQA), European University Association (EUA), European Association of Institutions in Higher Education (EURASHE) and European Students' Union., 2020, The ESG in the changing landscape of higher education. [https://www.eua.eu/downloads/publications/e4\\_statement\\_the\\_esg\\_in\\_the\\_changing\\_landscape\\_of\\_higher\\_education.pdf](https://www.eua.eu/downloads/publications/e4_statement_the_esg_in_the_changing_landscape_of_higher_education.pdf) (accessed 15/02/2023).

France Competences, The French qualifications framework to the European Qualifications Framework for Lifelong Learning and the Qualifications Framework for European Higher Education Area, [https://www.francecompetences.fr/app/uploads/2021/05/20210528\\_FC\\_Rapport\\_EU\\_certification\\_UK\\_final\\_WEB\\_dp-1.pdf](https://www.francecompetences.fr/app/uploads/2021/05/20210528_FC_Rapport_EU_certification_UK_final_WEB_dp-1.pdf) (accessed 21/04/2023).

German Academic Exchange Service (DAAD), 2023, Microcredentials in German Universities Development picks up speed. <https://translate.google.com/?sl=de&tl=en&text=MICROCREDENTIALS%20AN%20DEUTSCHEN%0AHOCHSCHULEN%0AEntwicklung%20nimmt%20Fahrt%20auf&op=translate> (accessed 15/05/2023).

German Accreditation Council (HRK), 2020, Micro-Degrees und Badges als Formate digitaler Zusatzqualifikation. [https://www.hrk.de/fileadmin/redaktion/hrk/02-Dokumente/02-01-Beschluesse/Empfehlung\\_Micro-Degrees\\_und\\_Badges\\_HRK\\_MV\\_24112020.pdf](https://www.hrk.de/fileadmin/redaktion/hrk/02-Dokumente/02-01-Beschluesse/Empfehlung_Micro-Degrees_und_Badges_HRK_MV_24112020.pdf) (accessed 15/02/2023).

Ghent University, 2022, Ghent University Framework for Micro-credentials <https://www.ugent.be/we/en/services/ICES/microcredentials> (accessed 15/03/2023).

Jansen, D. and Schuwer R., 2015, Institutional MOOC strategies in Europe (European Association of Distance Teaching Universities, Maastricht). Status Report Based on a Mapping Survey Conducted in October-December 2014. [https://eadtu.eu/documents/Publications/OEenM/Institutional\\_MOOC\\_strategies\\_in\\_Europe.pdf](https://eadtu.eu/documents/Publications/OEenM/Institutional_MOOC_strategies_in_Europe.pdf) (accessed 01/05/2023).

Kato, S., V. Galán-Muros and T. Weko, 2020, The emergence of alternative credentials. *OECD Education Working Papers*, No. 216, OECD Publishing, Paris, <https://doi.org/10.1787/b741f39e-en> (accessed 02/05/2023).

Kazin, C. J. and Clerkin, K. M., 2018, The potentials and limitations of microcredentials, s.l.: Service Members opportunity Colleges. [http://supportsystem.livehelpnow.net/resources/23351/Potential%20and%20Limitations%20of%20Microcredentials%20FINAL\\_SEPT%202018.pdf](http://supportsystem.livehelpnow.net/resources/23351/Potential%20and%20Limitations%20of%20Microcredentials%20FINAL_SEPT%202018.pdf) (accessed 18/01/2023).



MICROBOL, 2020, Desk research report. <https://microbol.knowledgeinnovation.eu/wp-content/uploads/sites/20/2020/09/MICROBOL-Desk-Research-Report.pdf> (accessed 15/02/2023).

MICROBOL, 2021a, Recommendations from the MICROBOL project for the European Commission's proposal for a Council recommendation on micro-credentials for lifelong learning and employability. <https://microbol.knowledgeinnovation.eu/wp-content/uploads/sites/20/2021/07/MICROBOL-Recommendations-1.pdf> (accessed 18/01/2023).

MICROBOL, 2021b, State of play in the European Higher Education Area. [https://microbol.knowledgeinnovation.eu/wp-content/uploads/sites/20/2021/02/Microbol\\_State-of-play-of-MCs-in-the-EHEA.pdf](https://microbol.knowledgeinnovation.eu/wp-content/uploads/sites/20/2021/02/Microbol_State-of-play-of-MCs-in-the-EHEA.pdf) (accessed 20/01/2023).

MICROBOL, 2022, Common Framework for Micro-credentials in the EHEA. [https://microcredentials.eu/wp-content/uploads/sites/20/2022/03/Micro-credentials\\_Framework\\_final-1.pdf](https://microcredentials.eu/wp-content/uploads/sites/20/2022/03/Micro-credentials_Framework_final-1.pdf) (accessed 20/01/2023).

National Commission for Further and Higher Education Malta, 2016, Referencing Report 4<sup>th</sup> revised edition, <https://mfhea.mt/wp-content/uploads/2021/03/Referencing-Report-2016.pdf> (accessed, 20/04/2023).

OECD, 2021, Quality and value of micro-credentials in higher education: Preparing for the future, OECD Education Policy Perspectives, No. 40, OECD Publishing, Paris, <https://doi.org/10.1787/9c4ad26d-en> (accessed 18/01/2023).

OECD, 2023, Micro-credentials for lifelong learning and employability: Uses and possibilities, OECD Education Policy Perspectives, No. 66, OECD Publishing, Paris, <https://doi.org/10.1787/9c4b7b68-en> (accessed 06/04/2023).

Quality Assurance Agency for Higher Education, 2022, Characteristics Statement Micro-credentials. <https://www.qaa.ac.uk/the-quality-code/characteristics-statements/micro-credentials> (accessed 15/02/2023).

Quality Assurance Agency for Higher Education, 2022, Characteristics Statement Micro-credentials, <https://www.qaa.ac.uk/en/the-quality-code/characteristics-statements/micro-credentials> (accessed 26/04/2023).

Rome Ministerial Communiqué, 2020, [http://www.ehea.info/Upload/Rome\\_Ministerial\\_Communique.pdf](http://www.ehea.info/Upload/Rome_Ministerial_Communique.pdf) (accessed 10/02/2023)

Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG), 2015, Brussels, Belgium. [https://www.enqa.eu/wp-content/uploads/2015/11/ESG\\_2015.pdf](https://www.enqa.eu/wp-content/uploads/2015/11/ESG_2015.pdf)

