MICROBOL writing team on qualification frameworks and ECTS

1. Introduction

The MICROBOL project engages ministries and stakeholders involved in the Bologna Follow-up Group to explore whether and how the existing EHEA tools can be used and/or need to be adapted to be applicable to micro-credentials. For this reason, the project looks to qualification frameworks and ECTS as they are one of the key bases for transparency in Higher Education.

The first meeting of the working groups on QA, recognition and ECTS and QF was focused on identifying challenges in the applicability of Bologna tools to micro-credentials, and the second meeting will focus on tackling these challenges and identifying possible solutions.

This document is meant to:

- serve as a common input basis for the meeting of the MICROBOL Working Group on qualification framework and ECTS on 19/05/2021
- provide a comprehensive overview of the main points and challenges emerged in the Working Group meeting held in January 2021;
- provide input on possible solutions and recommendations to overcome these challenges, highlighting the way forward for micro-credentials in general.

2. Obstacles and challenges in applying Bologna tools to micro-credentials: outcomes of the Working Groups meeting held in January 2021

The main challenges for the qualification framework and ECTS highlighted in the WG meeting in January are the following:

2.1. Qualification Framework

- A micro-credential (MC) can be described as being within a level (1st, 2nd, 3rd cycle QF EHEA) the same way as would any single course unit/ module or individual learning component in a full degree programme.
- If micro- credentials are part of a degree programme provided by a higher education institution, this would be very easy.
- However, micro- credentials are understood also in **a wider context and not only as part of a degree programme** provided by a higher education institution.
- The way this complexity of learning fits into the idea of level may depend on how the learner develops his/her personal learning path.
- In other words, **the accumulation of knowledge, skills and competences may take place vertically or horizontally** within the qualification framework, and in various directions.

- The Dublin Descriptors provide a way to describe the MCs, but **the co-existence of MCs and degrees at the same level may create confusion** among learners in terms of progress between the levels.
- Therefore, **the distinction between full degrees and stackable micro-credentials is important and should be clearly communicated**.
- **MCs should not automatically be 'stacked' into a full degree** just on the basis of the numerical sum of the credits they carry as a full degree would normally also require certain research and/or practical activities leading to a final thesis or dissertation, and also would normally include include only a certain possible selection of course components.
- **The way MCs are conceptualised varies**
    o as part of degree or as stand-alone courses
    o as subject-specific knowledge, skills or competences, sets of transversal skills or small programmes
    o as 1 MC = 1 topic or 1 MC covering many topics to achieve certain knowledge, skills or competences
    o in addition, the field of study may also matter.

- Regulating **the size of MC** is not crucial, but:
    o the bigger the MC, the easier it becomes to define the learning outcomes and the level.
    o if the MC is too big, it could be confused with a programme.
- **The indication of level may be useful**, to create transparency and stackability whenever possible, but **the description of learning outcomes might also be sufficient**.
- **MCs may provide knowledge, skills and competences that are applicable to various fields of study** and are included as part of various degree programmes.
- **MCs can be part of a programme, but also lead to individual, stand-alone credentialsskill.**
- Currently, MCs do not necessarily indicate the QF level which might **create problems with their recognition**, especially in countries other than that of the provider.
- Opening up NQFs to MCs may lead also to the other education provision that could be at the QF level 6, 7, or 8 **with different quality assurance practices**

2.2. ECTS

- ECTS should be used for micro-credentials provided by higher education institutions.
- This could be useful also for other education sectors, employers and 'other providers' as there would be an advantage in using a widely accepted language, indicating workload as well as learning outcomes by using ECTS
- However, there might be issues regarding **how to ensure that ECTS is used properly in these cases**.
- The easiest way would seem to be by **agreements** between 'other providers' and HEIs, that could verify that the LOs and the volume of learning are correctly described in terms of ECTS.
- **Views on whether to define a possible the range of credits for MCs vary: how to ensure clarity without sacrificing flexibility**?

- The ECTS Users' Guide supports the development of stand-alone MCs but **it should be better known and applied, with regard to this and other aspects.**

3. Way forward

In order to support the use of qualification framework and ECTS in the context of the micro-credentials, possible steps on the way forward are outlined below.

3.1. An opportunity to rethink higher education's role in lifelong learning

Micro-credentials are **an emerging topic** within the higher education sector at the national and European level, as well as globally. This topic is closely linked to a wider discussion on more accessible and flexible lifelong learning opportunities to keep pace with social, economic, and technological changes and ability to respond to societal challenges. The COVID-19 pandemic has made the question even more urgent.

Micro-credentials are often referred to as a way to increase and diversify **lifelong learning provision** to support individual learning pathways and widen access to higher education. Provision of lifelong learning opportunities, or units smaller than full degrees, such as courses, modules, diplomas, parts of degrees, in-service training, etc., is however an area where higher education institutions have long been active. Private companies and third sector actors also have learning provision, which fits the concept of micro-credentials. In this regard, micro-credentials may not bring anything new under the sun at all. However, by including already existing diverse learning provision in the discussion, the micro-credentials may help to **re-conceptualise** this diversity by putting these different concepts together into a coherent and more understandable whole.

At the heart of the micro-credentials are **learners** – individuals in search of a first experience of higher education or in pursuit of updating and enhancing their knowledge, skills and competences after a period in or out of the workforce. In this regard, the micro-credentials should be understood as learning opportunities provided **before, during and after higher education studies leading to a degree.**

Another important aspect is **collaboration**. In many cases, the diversification of learning provision is taking place in **collaboration with higher education institutions and other education providers** both within the sector and between different sectors nationally and internationally. At EU level, one example is the higher education institutions participating in the European Universities initiative, where participating institutions seek to expand their learning offer together to different target groups by combining their strengths, which can lead to the co-development of MCs between institutions, students and employers/companies. Efforts can also be made to open up learning opportunities together on **various platforms**, often including **collaboration with employers** (e.g. FUN-MOOC). In this regard, micro-credentials can be seen as a way to **tailor the learning offer** to the needs of working and family life, but also as a means to evidence the acquired knowledge, skills and competences. Another interesting aspect is **the relationship with research** and how micro-credentials could support the knowledge transfer by translating the latest research results quickly into learning opportunities to the benefit of the society.

Consideration is needed on the cost of developing and delivering micro-credentials across different disciplines and how they are linked to higher education funding structures that are currently often focused on degrees, for example beyond a pro-rata ECTS approach, and differ from country to country. Incentivisation of micro-credentials will be important for their broader take-up.

- **Recommendation 1**: facilitate the exploration of the concept of micro-credentials in supporting engagement of higher education institutions in lifelong learning by reaching out and providing access to education to diverse learners before, during and after studies that lead a degree.

- **Recommendation 2:** support a learner-centred approach and foster various forms of collaboration in developing micro-credentials with relevant stakeholders. Collaboration with other providers or employers could be encouraged, as this might increase the relevance of the micro-credentials for the labour market.

- **Recommendation 3:** explore the applicability of micro-credentials in evidencing knowledge, skills and competences acquired at work, alongside RPL, and accelerating the transfer of latest research to lifelong learning opportunities.

3.2. Consensus of what a micro-credential is

The very first step for having a common approach to the way the qualifications framework and ECTS are used to support the development of micro-credentials is to build **a common understanding of what is considered a micro-credential.**

Within the MICROBOL project we have **the following working definition**:

"A micro-credential is a small volume of learning certified by a credential. In the EHEA context, it can be offered by higher education institutions or recognised by them using recognition procedures in line with the Lisbon Recognition Convention or recognition of prior learning, where applicable. A micro-credential is designed to provide the learner with specific knowledge, skills or competences that respond to societal, personal, cultural or labour market needs. Micro-credentials have explicitly defined learning outcomes at a QF-EHEA/NQF level, an indication of associated workload in ECTS credits, assessment methods and criteria, and are subject to quality assurance in line with the ESG" (*"[European project MICROBOL. Micro-credentials linked to the Bologna Key Commitments](#)"*, *August 2020, p. 7).*

Later on, **a second EU-level definition** was developed and presented in the report "[A European approach to micro-credentials](#)", as final output of the micro-credentials higher education consultation group:

"A micro-credential is a proof of the learning out-comes that a learner has acquired following a short learning experience. These learning outcomes have been assessed against transparent standards. The proof is contained in a certified document that lists the name of the holder, the achieved learning outcomes, the assessment method, the awarding body and, where applicable, the qualifications

framework level and the credits gained. Micro-credentials are owned by the learner, can be shared, are portable and may be combined into larger credentials or qualifications. They are under pinned by quality assurance following agreed standards".

Taking into account the fact that the concept and common understanding are still very much evolving, **having a broad working definition is an important condition to ensure adaptability and innovativeness**.

- **Recommendation 4:** support flexibility in definition, to stimulate innovation and support adaptability of the MCs to various needs of individuals, labor market and society, in general.

3.3. Qualification framework and ECTS

The Framework of Qualifications of the European Higher Education Area (QF-EHEA), originally adopted in 2005 and modified in 2018, serves as the basis to which National Qualifications Frameworks (NQFs) in the EHEA are referenced. The framework consists currently of the following cycles: first cycle, second cycle, third cycle and an optional short cycle. Each cycle is described in terms of learning outcomes and competences through generic descriptors and, with the exception of the third cycle, in terms of typical ECTS credit ranges,.

The QF-EHEA is in principle fit for purpose also when addressing micro-credentials (MCs). However, further work is needed to explore the opportunities and possible challenges when applying them to MCs. For example, QF-EHEA descriptors describe qualifications that mark the completion of each cycle. MCs will rarely mark the completion of a QF-EHEA cycle so it will be important to make very clear how are they represented within QF-EHEA, e.g. as intermediate qualifications within a cycle, as part of larger qualification that is QF-EHEA compliant. The work on European level should be supported by discussion and work at national level. **How the NQF is developed, implemented and used at national level has a direct impact on how MCs can benefit from the NQF and the QF-EHEA.**

MCs offered by HEIs seem to be compatible with QF systems and may be included as qualifications within NQFs. **A common approach to principles** for including them within the NQF is needed both at European level and at national level, as the Member States are responsible for their respective NQFs. If MCs are included within the NQF at a certain level, this also indicates the QF-EHEA level of the MC, as per self-certification.

MCs can be viewed in the context of a traditional degree programme, extracted and adapted or developed as a single course unit/module or individual learning component. In principle, **these can be described as being within a level (1st, 2nd, 3rd cycle of the QF-EHEA), in the same way as they would be "part of a full degree programme".** This also gives an indication of associated workload in ECTS credits, assessment methods and criteria, and ensures quality assurance in line with the ESG.

Viewed in a wider context, aiding flexible learning paths, **a learning outcome approach** to developing MCs and well managed qualifications processes, including QF-EHEA Dublin Descriptors (generic cycle/ level descriptors), can support **the inclusion of MCs in QFs**. NQF 'level indicators' can be compatible

with MCs, taking the form of generic statements about the breadth and kind of knowledge, the range and selectivity of skills, the role and context competence, learning competence and insight.

MCs offered by providers other than HEIs can be recognised by HEIs using recognition procedures in line with the Lisbon Recognition Convention or validation/ recognition of prior learning, where applicable, assessing evidenced learning.

The decision concerning whether to include all MCs or only some of them in an NQF is made on a national level. There are issues that should be taken into account. **Firstly, there is the principle of openness and flexibility** of the NQF regarding MCs as opposed to the NQF that currently includes only traditional degrees. **Secondly, including MCs on NQFs will support the recognition, quality, transparency and uptake of MCs**.

If the national decision is to include MCs in the NQF, **the criteria for inclusion in the NQF should be decided**. These criteria may include the size, naming, value /relevance and quality assurance of the MCs. **Progression and transfer opportunities** attached to the level of the MCs in the NQF are other possibilities, to name a few.

The indication of the level may be useful to create transparency and facilitate stackability. In this case, **MCs could also be distinguished**, e.g. by size and naming conventions, from other types of qualifications included within the same level of the NQF to avoid confusion among learners, employers and societal stakeholders, for instance, in terms of progress between the levels. Proliferation of titles that leads to confusion or misunderstanding is best avoided.

As mentioned before, in some cases instead of indicating the level of the MCs, a description of learning outcomes could also be sufficient. In this case, **the descriptors of the NQF as well as the QF-EHEA** can be used to determine the learning outcomes of the MC in question.

Moreover, it is crucial that there be enough information about European and national qualification frameworks. Information is needed especially about the criteria for including the MCs within the national frameworks and principles based on which the NQF level of the MC can be included in the certificates and/ or in national or European qualifications registers or databases.

- **Recommendation 5.** The European discussion and national solutions should be taken forward simultaneously. European discussion on MCs has an impact on national solutions. At the same time, it is important that the national solutions and their consequences be considered and discussed on European level.
- **Recommendation 6.** Micro-credentials should be included in the NQF, when possible. The decision on including the MCs within the national frameworks is to be made at national level. MCs as qualifications are included within an NQF which is then self-certified as compatible with the QF-EHEA.
- **Recommendation 7.** Guidelines and common principles for including MCs within the national qualifications frameworks should be developed, optimally after consensus has been reached on their definition.

ECTS, officially the European Credit Transfer and Accumulation System, began when Erasmus mobility was just starting, as a practical 'rule of thumb' way of describing mobile learners' accomplishments abroad so that on return they could be recognized by their home institution. The central purpose of ECTS was to permit the description of a piece of learning in a form that would be **transparent** and **understandable** for others. Its initial purpose was not to describe a full degree programme, but the smaller quantities of learning that a mobile student would need to have recognized.

Thus, in the present search for tools that can permit the shift to more flexible learning paths, which includes the exploration of the potential of micro-credentials, **ECTS is inherently very useful**. The translation of ECTS into workload is particularly useful when communicating about MCs to potential learners and employers.

As ECTS has evolved, its credits express two key elements, tightly linked: **learning outcomes**, which are descriptions of what competences the learner is able to demonstrate at the end of a learning experience, and **volume of learning**, understood as the amount of time a normal learner will need to form those competences. Thus, the basic element of ECTS, the ECTS credit, is ready for use to describe a micro-credential. In fact, unsurprisingly, the possibility of using it for a stand-alone course unit or piece of learning is already contemplated in the 2015 Users' Guide, and indeed, ECTS credits are regularly awarded for such learning experiences as summer schools or special courses of various kinds.

In addition to credits themselves, another key element of ECTS is the production of **the Course Catalogue in standard format**, and made available on-line: this includes a succinct description of all degree programmes and all course units/individual components of learning offered by a higher education institutions. Micro-credentials (or, in principle, any 'small piece' of learning), **could be included in an HEI's Course Catalogue**. The same standard format could also be used by 'other providers' to present their offer. How the Course Catalogue would relate to the current discussion on the registry of micro-credentials should be further explored. This highlights the fact that the MCs should not be developed separately from the existing higher education system.

Whether micro-credentials should have **a specific number of credits, or a broader or narrower range of credits** is a that has been discussed in earlier meetings. In the varied taxonomy of the 'small pieces of learning' rapidly becoming available, examples go from badges indicating very brief learning experiences (less than 1 credit) to longer mini-courses that may even require a year of a full-time learners' life. There is a need for flexibility, but at the same time, for clarity. The most common idea seems to describe micro-credentials as something of the order of **a course module**, usually something between 3 and 15 ECTS credits. As the concept and its content are still very much evolving, we should allow quite a broad range, but one that distinguishes MCs clearly on the one hand both from full degree programmes, and on the other, perhaps, from very small pieces of learning (e.g. under 1 ECTS credits).

The question arises as to **whether all MCs**, including those offered by other educational sectors and employers, **should be described in terms of ECTS.** Are there cases in which competences and

describing learning outcomes are enough? One argument is that a principle aim of MCs is to upskill or reskill current or future employees, and that employers only need to know that a person has the required competences, and that credits are irrelevant in this regard. It seems however that most employers are interested in having competences described using the widely known and accepted language of ECTS. 'Other providers' too would find it beneficial to be able to present their offer in that language. But in some countries, only recognised higher education institutions can award ECTS.

ECTS should be used for micro-credentials provided by higher education institutions. This seems to be a foregone conclusion, as HEIs are trusted providers, and can easily adapt to describing MCs in the system they use for other courses, whether stand-alone or not. But how can 'other providers' guarantee that they use ECTS properly? The easiest way would seem to be to promote **cooperation agreements** between 'other providers' and HEIs: in this way the HEIs can verify that the LOs and the volume of learning are correctly described in terms of ECTS. Such partnerships can be encouraged as they provide a path for employers and HEIs understanding each other's needs and profiting by having access to each other's know-how. For those countries with restrictions in awarding ECTS by other providers, awarding ECTS would continue to be guaranteed by the HEI but in close cooperation and coordination with the provider. Such a practice would also encourage 'co-creation' of MCs, and so their responsiveness and relevance to the rapidly changing context.

A careful reading of the ECTS Users' Guide (2015 edition) shows that **ECTS in its current form supports the development of stand-alone MCs**, and already comprises numerous features that can deployed for this purpose. Unfortunately, experience shows that frequently ECTS is understood only in a superficial way, and sometimes it is applied incompletely or incorrectly. Not all HEIs offer an updated Course Catalogue, completed according to the suggested format. There are instances, furthermore, in which an excessive number of ECTS credits are awarded, for example for summer schools, thus debasing the ECTS currency ("selling ECTS credits").

If ECTS and Micro-credentials are to have credibility ECTS needs to be implemented correctly, and its many facets better known not only to academics, but also to other stakeholders. On this basis a new Users' Guide is not required. However, a specific 'Addendum' might be useful in order to clarify ECTs and learning outcomes issues and point to solutions that can be applied to MCs for potential users.

- **Recommendation 8**: ensure that the existing ECTS Users' Guide (2015 edition) is well known and correctly followed by HEIs and its elements clarified for other stakeholders. Particularly important is that ECTS credits represent two elements, learning outcomes as well as volume of learning in student time.
- **Recommendation 9**. Encourage cooperation between HEIs and other providers in order to facilitate the correct definition of learning outcomes and indication of workload, as well as co-creation of learning activities.
- **Recommendation 9bis**. If deemed useful, formulate a simple guide to the relevant existing ECTS principles and features, to facilitate the correct understanding and application of ECTS to MCs.

3.5. Other aspects

Besides the Qualifications Framework and ECTS, the development of micro-credentials includes other aspects that need to be taken into consideration when building a European common framework. Some of these aspects are discussed more deeply in the other two working groups of the Microbol-project.

3.5.1. A common format

The success of a European Approach of micro-credentials depends on its common understanding throughout the European Higher Education Area. Therefore, we should agree on certain constitutive elements to assure fair and transparent recognition and permeability between national systems and higher education institutions.

A common format to issue micro-credentials will be necessary for providers to document the value of micro-credentials. At the same time it should be ensured that the mandatory information needed for recognition is kept to **the minimum necessary to avoid imposing an unnecessary burden,** also in terms of overlapping approaches.

Taking the above mentioned considerations into account, the following format is proposed for the purposes of **issuing** a micro-credential.

Constitutive elements (mandatory):

- Identification of the learner
- Title of the micro-credential (maybe labelled as Micro-credential)
- Country of the issuer
- Awarding body/institution
- Date of issue
- Learning outcomes e.g. knowledge, skills and competences
- Workload needed to achieve the learning outcomes (in ECTS, wherever possible)
- Assessment
- Form of quality assurance

Optional:

- NQF level (and QF-EHEA cycle, if possible) of the micro-credential
- Form of participation in the learning activity (online, onsite or blended, volunteering, work-based learning)
- Stackability and portability recognition options (stand-alone, integrated, stackable towards another credential, transfer or progression opportunities)
- Prerequisites needed to enrol in the learning activity
- Field of learning, taking into consideration the applicability of ISCED for MCs

- **Recommendation 10:** support knowledge and enhance awareness of the importance of the common European format to document micro-credentials, create consensus on them, contribute to their implementation and develop good practices.

3.5.2. Coverage/link with Lisbon Recognition Convention

As far as possible, micro-credentials should be assessed according to the principles and procedures of the Lisbon Recognition Convention. This is easier and more "natural" for micro-credentials awarded in the formal context of Higher Education sector, but it would still be important to make explicit to what extent micro-credentials awarded by Higher Education institutions fall in the LRC definition of period of study, or, as long as they are awarded as a stand-alone credential, they fall in the LRC definition of qualification:

- Period of study: "Any component of a higher education programme which has been evaluated and documented and, while not a complete programme of study in itself, represents a significant acquisition of knowledge or skill".

- Higher education qualification: "Any degree, diploma or other certificate issued by a competent authority attesting the successful completion of a higher education programme"

(LRC section I - Definitions)

There are a number of initiatives in the field in the framework of the ENIC-NARIC networks that could constitute background for recognition of micro-credentials, and that could be looked at to explore synergies, integration, or to take inspiration from principles and practices already used. One example is the E-valuate project, and its seven principles for recognition of non-traditional learning.

- **Recommendation 11**: make explicit to what extent micro-credentials can fall within the scope of the Lisbon Recognition Convention; clarify what could be the legal ground for the academic recognition of micro-credentials; explore the need for a subsidiary text to the LRC to support their fast and fair recognition; consider the possibility of including a chapter on micro-credentials in the revised version of the [European Area of Recognition (EAR) manual](#) and of the [EAR HEI manual](#), to support the development of day-to-day recognition practices.

3.5.3. Validation of non-formal and informal learning [1]

Validation of non-formal and informal learning can be seen as an opportunity for Higher Education Institutions to standardise the recognition of industry types/other types of micro-credentials.

---

[1] [1] In the context of this document, 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

Certainly, where it is not possible to have sufficient information on the main elements of the credential, the credential itself is not sufficiently reliable with regard to the competences gained and it is awarded outside the formal context of Higher Education.

- **Recommendation 12:** use validation of non-formal and informal learning only in cases where a formal credential is absent or it does not provide enough reliable evidence of the competence gained, and develop RPL procedures that are fit-for-purpose and that are not too burdensome for Higher Education Institutions and learners.

3.5.4. Legislation

In some countries legislation may present some obstacles, for instance if micro-credentials are only allowed to be delivered by institutions that offer full degree programmes in the particular study field. This could be an indication of quality if the higher education institution already has an accredited full programme. However, provision of new micro-credentials should also be encouraged and allowed.

In some countries the digital mode of delivery could also present a legal issue.

Procedures could be different depending on the national cases. So could be the necessary adaptation. It is always important to explore whether a change in legislation is really needed or whether other ways are possible. When it is not possible to move in other directions it is important to explore changes in legislation, and exchange information with other countries that could have the same issues or that have already solved these.

- **Recommendation 13:** explore whether a change in legislation is really needed, and if this is the case, plan the relevant changes exchanging information with other countries and taking into account good practices and experiences at international level.

3.5.5. Quality and transparency of information

The Quality of a micro-credential is one of the main elements to be assessed in the recognition procedure. It is relevant that Higher Education Institution offer information about quality assurance of micro-credentials they award (e.g. part/unit of a study programmes indirectly covered by external QA, or stand-alone credential covered by internal QA, etc.)

- **Recommendation 14:** HEIs should provide whenever possible information on the Quality Assurance mechanism for micro-credentials awarded.

3.5.6. Register of quality assurance providers

Quality and quality assurance are central elements for other aspects, like recognition. A register of trustworthy providers and offered micro-credentials could be a tool for supporting acceptance and

---

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".

recognition of micro-credentials. Being listed in the register should become a de-facto 'label' of adherence to the framework.

This register could also include alternative providers, if they deliver micro-credentials that are evaluated by an EQAR registered agency. The ESG should continue to be at the basis and specific procedures could be developed.

Recommendation 15: promote the development of DEQAR-compatible national and other registers of micro-credentials and providers of micro-credentials at all levels

3.5.7. Digitalisation

There is general agreement that the original certificates of micro-credentials should be in digital format and should be learner-owned. Depending on the national regulatory framework, it can in addition be provided in paper form. This is linked to the fact that digitalization can facilitate portability, transparency and reliability of information and verification of authenticity, and as such supporting a fast and fair recognition process and enhance stackability. If this may be true for all qualifications, it is particularly relevant for micro-credentials, where the digital format (taking into consideration the large number of such certificates) could support a fit-for-purpose recognition approach, with the credential itself containing all the needed information. It would be also relevant to explore synergies with existing initiatives, such as DEQAR database, that could potentially contain also reference to quality assurance schemes for micro-credentials in place at national level, and initiatives that go in the direction of the digitalization of credentials in general, just to mention few of these.

Concerning the digital provision of micro-credentials, there should be no major implications for the quality assurance and it should be based on the ESG standards. However, digital provision has some particular aspects which differ from on-site provision and which need to be taken in consideration by internal quality assurance. For example, appropriateness of digital tools, adapted learning materials, digital assessment methods, support systems for students. Additional guidance to address the online or face-to-face modes of delivery might be needed, as well as common standards could be interpreted differently (for example teaching staff trained for using digital tools).

Recommendation 16: explore to what extent micro-credentials should be digitally awarded and user-controlled, as a means to support portability, transparency and reliability of information and verification of authenticity, and build a clear digital approach in line with other ongoing initiatives e.g. EDCI (Europass Digital Credentials Interoperability) and EDSSI (European Digital Student Service Infrastructure) taking into account national systems and practices. Start from projects and experiences already in progress and scale them up, taking inspiration for the next steps. Develop and improve experiences already available.

Recommendation 17: explore if and how additional aspects need to be considered with regard to the quality assurance of digitally-delivered micro-credentials.

3.5.8. Involvement, knowledge and consensus among all actors

It is important that all the relevant stakeholders (HEIs, ENIC-NARIC centres, ministries) be involved and aware of the discussion about recognition of micro-credentials, and can work in the same direction and deploy a common approach to the recognition of micro-credentials.

- **Recommendation 18:** develop knowledge sharing activities about the topics of micro-credentials, involving relevant stakeholders, both at a policy level and at a "practicioner" level.

3.5.9. Peer exchange and support, involvement of all actors, guidelines

Exchange of experiences and practices at European, national and regional level, inputs from experts, occasion to share information on legislative and policy development are essential for the uptake and recognition of micro-credentials both at national and international level.

A guideline for micro-credentials provided for HEIs would be very useful in order to increase the common understanding about and recognition of micro-credentials. This guideline could include good practices and recommendations on how to organize and how to ensure that the quality of micro-credentials could be developed within the EHEA. Knowledge and implementation of this guideline could be evaluated by quality assurance agency during institutional evaluation. The guideline should especially focus on:

• Support HEIs in the provision of micro-credentials

• Supporting Quality Culture at HEIs

• Transparency standards/processes

• Introducing a database/register for micro-credentials

There is certainly the need for certain standards to facilitate transparency. On the other hand, the proposed framework should be open enough to allow for experimentation and innovation. It should as well be flexible and allow for responses to the rapid changes in the knowledge society.

Furthermore, it is important that all the relevant stakeholders (HEIs, QA agencies, ministries) be involved and aware of the discussion about quality assurance of micro-credentials, and be able to work in the same direction and deploy a common approach to the quality assurance of micro-credentials.

Recommendation 19: create occasions for peer support and exchange of practices among stakeholders at international level.

Recommendation 20: a guidebook or set of recommendations for HEIs about transparency should be developed.

Recommendation 21: support the development of a clear policy framework with transparent standards, while at the same time supporting the increased development of micro-credentials in co-creation with all stakeholders.

4. Reference materials

- Materials of the kick-off meeting: report and presentations
- Desk research: "European project MICROBOL. Micro-credentials linked to the Bologna Key Commitments"
- Survey Report "Micro-credentials and Bologna Key Commitments. State of Play in the European Higher Education Area"
- Outcome of the first meeting of working groups held in January 2021 (see above and see the minutes of each group: QF&ECTS, Recognition, QA)

Last update 06/05/2021

With the support of the
Erasmus+ Programme
of the European Union