# PAVING THE ROAD FOR THE MICRO-CREDENTIALS MOVEMENT

ECIU UNIVERSITY WHITE PAPER ON MICRO-CREDENTIALS

# I. INTRODUCTION

Micro-credentials are an opportunity to fundamentally change the role of universities in transforming learning as well as being a promising means of aligning universities with wider societal perspectives and valued social goals. Micro-credentials redefine the types of awards and qualifications offered by universities. They can align universities' missions with wider societal, economic and environmental goals. Through this paper, ECIU University shares its vision and commits to concrete actions for the future development of the micro-credentials movement.

In December 2020, the European Commission (2020) published a major new report promoting a common European approach to the future of micro-credentials. This much anticipated report offers a foundational roadmap for the development of micro-credentials in Europe including key building blocks. It is part of a much wider new skills agenda and transformative 2030 vision for the future of European universities. ECIU University is pleased to have actively contributed to the proposed roadmap of actions which provides a strong foundation for the future of micro-credentials. We are building ECIU University to reimagine higher education and the redesign of traditional credentials. This will prepare future work-ready graduates, 21st Century life-long learners and active citizens for the new digital society. This paper builds on our guiding principles for micro-credentials published last year (ECIU, 2020a). ECIU University aims to lead the way in Europe, and globally. We will do this by developing more relevant and future-fit credentials that are widely available to ensure innovative life-long skills and competence development.

The micro-credentials movement has momentum, and so does ECIU University. New technologies and new possibilities will emerge that need to be maximised. . We have to be flexible and modify our approach along the way to ensure wide-scale adaptation of micro-credentials. ECIU University will stretch, test and evaluate the system. We are also life-long learners. Therefore, this paper is not the final destination. You will hear from us again in 2022 with an updated paper, because the short- and long-term developments of micro-credentials cannot be fully predicted and there is still much to learn.
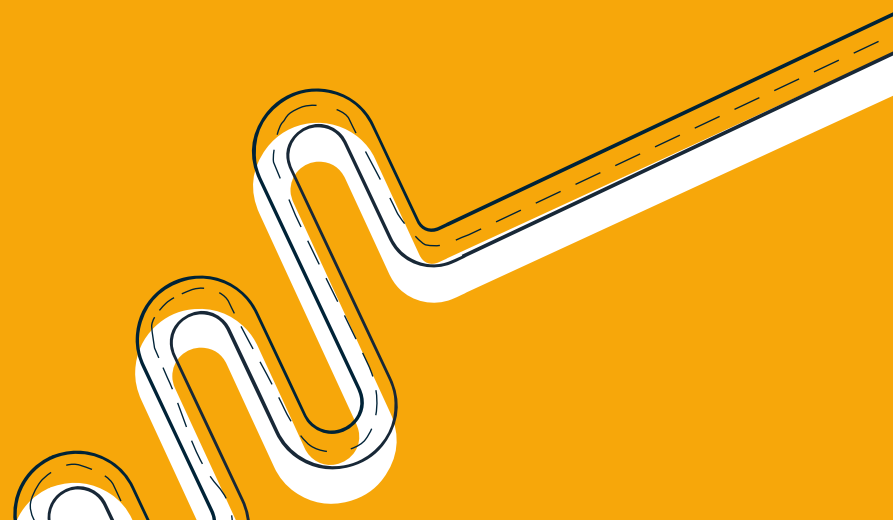
# II. THE CHANGE IMPERATIVE

While the traditional university degree has served us well for more than a century, the time has come to seriously rethink how we develop and recognise future skills and competences. Frontloading skills and competences through our schools and universities is not sufficient to prepare active and well-educated citizens for the rapidly changing nature of work and actively participate in building a more sustainable future.

The stark reality is that a skill gap is growing between the type of graduates that our traditional universities currently produce and the requirements of living, earning and thriving in the new digitally connected world. The World Economic Forum (2020a) has identified the top skills considered crucial for the future and valued by today's employers. Few of these feature as core outcomes and major competencies in most traditional degree programmes. Moreover, there is overwhelming evidence that current models of higher education will not be able to meet a growing demand for a depth and breadth of new skills and competences across multiple sectors, and importantly for the jobs of tomorrow.

It is predicted that 50% of all employees will need reskilling by 2025 and widely accepted that over the next decade "...new technologies will reshape millions of jobs in the EU" (European Commission, 2019, p.7). These new types of jobs are expected to emerge through Industry 4.0 and as a result of the growing impact of digitalisation. This also includes the need for citizen engagement, critic participation, cooperation, societal awareness and general societal needs. Therefore, an urgent need exists to prepare graduates by developing agile, personalised education and training initiatives.

We must also confront the reality that participation in life-long learning lags behind current targets. The average European participation rate is still well below 15% of the population (Eurostat, 2020). This raises serious concerns if we are to develop active citizens capable of fully engaging in today's digital society.

To address this problem, ECIU University develops innovative learning solutions and smart educational pathways which exploit the pedagogical affordances of new digital technologies and emerging educational models. Such new models also require stronger partnerships and levels of engagement between education and society if we are to prepare a future-ready workforce with the type of transversal skills and competences required for a prosperous society. ECIU University will cater for this need.

According to the World Economic Forum (2020b), the legacy of the COVID-19 crisis, along with likelihood of further digital disruption, point to the urgent need for new forms of certification and a broader conceptualisation of both skills and competencies. The key point is that if we want to harness the best of our human talent to create a sustainable society where everyone can thrive, then we must think hard about how to design the future of European universities. Put simply, if you want different results, then you have to try different approaches. Continuing to do the same thing is no longer an option.

ECIU University believes the imperative for systemic change is overwhelming and is forging a new path with speed and a sense of direction as we develop more flexible models of learning and innovative industry partnerships and partnerships with society for the future. Micro-credentials are crucial to this bold change agenda as ECIU University seeks to translate our 2030 vision (2020b) into practice.
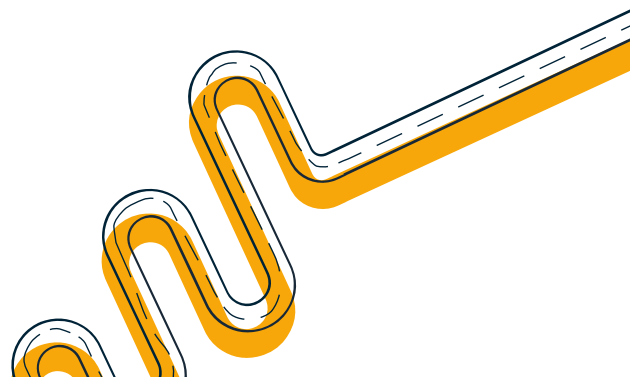
# III. ECIU UNIVERSITY

ECIU University is the first European university alliance where learners, teachers and researchers collaborate with wider stakeholders, such as urban governance bodies and employer groups, to solve real-life challenges. This exciting new co-creation learning ecosystem promotes research-based higher education that connects you for life. ECIU partner universities have a strong commitment and proven track record of promoting life-long learning for societal impact.

ECIU University is one of the 41 prestigious European University alliances that are part of the European Universities Initiative, funded by the Erasmus+ Programme. ECIU University is the largest European university alliance with twelve full members: Aalborg University (Denmark), Dublin City University (Ireland), Hamburg University of Technology (Germany), Groupe INSA (France), Kaunas University of Technology (Lithuania), Linköping University (Sweden), Tampere University (Finland), Universitat Autònoma de Barcelona (Spain), Universidade de Aveiro (Portugal), University of Stavanger (Norway), Università di Trento (Italy) and the University of Twente (the Netherlands). Technológico de Monterrey (Mexico) is an Associate Member.

# IIII. ECIU UNIVERSITY VISION 2030

ECIU University has a bold vision for the future. Education in ECIU University aims to drive European values and strengthen European culture and citizenship. It is in our DNA to look boldly into the future, see opportunities, and reinvent ourselves at the European level (ECIU, 2020b). We believe in a **European-wide ecosystem** based on open and inclusive collaboration. This ecosystem will connect societal stakeholders, researchers and learners to provide European answers to future societal challenges. Our Vision 2030 is to create:

> *"A playground for solving multi-disciplinary challenges in entrepreneurial, innovative ways and to provide personalised learning and career opportunities for life at the European level, enabled by a novel university model based upon co-creation"* (ECIU, 2020b, p.3).

At the core of this vision is a commitment to creating spaces where communities of practice flourish around urgent and relevant societal topics aligned with **Sustainable Development Goals** (SDGs) to help Europe achieve sustainability. More specifically, ECIU University has a goal to develop **smart learning pathways** where 21st Century skills and competences are enabled through new developments in Artificial Intelligence. Skills and competence analysis leading to personalised learning pathways will be the next step for our life-long learning offerings and the entire higher education sector, including degree students, in the future.

It follows that ECIU University supports **flexible learning** offering learners greater choice where they can join multidisciplinary and international teams to challenge themselves and make a real impact. Moreover, it fits better their existing competence profile and future preferences and aims. It provides another level to student-centred learning, where learners decide what they want to know and why. According to this vision, micro-learning opportunities are part of a partnership between learners and European universities where labour market and societal challenges are also part of the given offerings.

To this end, we have set about developing a comprehensive suite of **micro-learning opportunities** across partners. These can be tailored to learners' needs for skills and competences and will address major societal challenges. They also provide opportunities to learn other languages and develop important transversal skills and competences. Currently over 70 micro-modules support a diverse range of UN Sustainable Development Goal 11 related challenges which have been developed by the stakeholders of ECIU partner universities.

A distinctive feature of ECIU University's micro-modules is our commitment to **Challenge-based Learning** (CBL) in order to support the development of creative and resilient European citizens with an entrepreneurial mindset, critical thinking and agility. The adoption of CBL as a signature pedagogy, coupled with the design of challenges in co-creation with external stakeholders, such as companies, governments and NGOs, is the core of the ecosystem of ECIU University. This close collaboration with societal groups reflects a strong emphasis on interdisciplinarity and of working outside of traditional silos across educational programmes and complex problem solving. Stakeholders provide relevant, real-life and meaningful challenges of global significance that require learners to work in interdisciplinary teams, which not only results in authentic solutions that can be implemented, but also promotes new knowledge as well as a wider variety of competences and skills.

Our unique range of micro-modules enable learners to personalise their learning by choosing particular challenges, which ultimately can be used to earn micro-credentials as they develop knowledge, expand their skills and competences and build their own pathways. On completion of assessment and proof of learning, each micro-module can be used to contribute to a verified micro-credential consistent with the high quality and international standing of ECIU University partners. Learning from working with challenges and non-formal learning provided by other stakeholders will enable ECIU University to award a unique range of micro-credentials, which recognise real-world experience and the validation of skills and competences. ECIU University has an inclusive philosophy and is open to all academic learners who are highly motivated and wish to further develop and shape their knowledge in real-life challenges to enhance employability and engage in life-long learning and contribute to a more sustainable European society.

# V. TRANSLATING THE ECIU VISION INTO PRACTICE

Micro-credentials play a crucial role in ECIU University's drive to develop work-ready European citizens with future skills and competences and an innovative and entrepreneurial mindset. They provide a powerful vehicle to fundamentally transform the nature of university-based learning and the role of higher education in helping to address important skill gaps and wider societal challenges. Micro-credentials can be used to certify diverse learning outcomes, including formal, informal and non-formal learning, in addition to the development of specific competences. In creating a new future-fit credential ecology, certified micro-credentials can help to make education more accessible, better showcase learning achievements and enhance career opportunities.

However, it is essential to agree upon the policies that regulate the recognition of micro-credentials across different European countries and higher education institutions to unlock their true potential. Limited understanding and lack of common definition of the concept of micro-credentials, both in Europe and around the globe, continues to hinder potential development. As the European Commission (2020) notes:

> **"The value of these micro-credentials is often not well understood due to a lack of standards for quality and transparency in such a diverse landscape"** (p.7).

This is why ECIU University supports efforts led by the European Commission to develop a common language and promote a European approach to micro-credentials following a clearly defined roadmap.
Next to the support of the work of the European Commission, ECIU University also aims to push the boundaries and pave the way ahead. We are piloting and experimenting with both the existing and emerging educational models and technologies for the facilitation of micro-credentials, aiming at new opportunities by taking leaps into areas that are not yet well-known.

ECIU University also welcomes this common European definition:

> **"A micro-credential is a proof of the learning outcomes that a learner has acquired following a short learning experience. These learning outcomes have been assessed against transparent standards" (European Commission, 2020, p.10).**

Importantly, ECIU University's micro-credentials fit this definition and expands it to recognition of skills and competences. They will be credible, coherent and have high levels of currency. ECIU University strives to develop an ecosystem that ensures that micro-credentials personalise education and make it more flexible. ECIU University is committed to developing stackable, credit-bearing and quality assured micro-credentials. These will be assessed against transparent standards following short learning experiences. This supports our open co-creation model and CBL approach to address major societal challenges. The above definition does not view a short course or micro-learning experience as a synonym for a micro-credential. Other important criteria need to be met, including (though not limited to) academic validation, proof of learning, and rigorous quality assurance standards in an agile way. The following five key building blocks, identified by the European Commission, are particularly relevant to ECIU University's future roadmap of actions for the scalable, sustainable and long-term success of micro-credentials:

**DEFINITIONS AND STANDARDS**

**QUALITY ASSURANCE**

**CREDITS AND RECOGNITION**

**STORAGE, PORTABILITY AND PLATFORMS**

**SUCCESSFUL UPTAKE**

# V.I. ECIU UNIVERSITY: DEFINITIONS AND STANDARDS

ECIU University is committed to clear definitions and common standards for micro-credentials. A related issue is the value of micro-credentials: a focus on the specific and unique aspects a micro-credential can offer to learners. It is crucial that any operationalised definition for a European approach to micro-credentials is "living" and encompasses an educative dimension.

We know from a survey of ECIU University partners conducted in 2020 that a common definition alone will be insufficient to promote widespread uptake of micro-credentials in the academic heartland of universities. This also extends to society more generally, unless there is an accommodating programme of professional development. An educational programme also needs to extend to employers and professional bodies. Research indicates a lack of shared understanding and even, in some cases, a high degree of scepticism (Nic Giolla Mhichíl, Brown, Beirne, & Mac Lochlainn, 2020).

ECIU University is committed to raising greater awareness of the underlying drivers behind developing micro-credentials in response to powerful change forces and to a unified and common European approach. As a leading European consortium and early adopter, ECIU University is able to share valuable lessons of what works and why. We have experience in terms of raising awareness, developing common standards and successfully implementing micro-credentials.

# KEY ACTIONS

- In 2020, ECIU University was represented in high-level discussions as part of the European Commission's Micro-credentials Consultation Group to help develop a common definition and standards. We also featured prominently as an early adopter case study in several related reports and continue to play a leading role in shaping European policy developments.

- In 2020, ECIU University partners continued their active engagement in other relevant European micro-credentialing projects with a policy and standards focus (e.g., DigiHE & MicroHE) and launched a Micro-credential Observatory to monitor and share major developments in the area.

- In 2020, ECIU University began a programme of research on attitudes and approaches to micro-credentials, which included a survey of staff at each partner institution. This research is ongoing and is engaging with a number of other leading professional bodies (e.g., EUA, EDEN & EADTU), as well as many of the world's leading international scholars working in the area.

- In 2020, ECIU University identified, developed and promoted a suite of micro-modules across partner universities which meet common requirements and share a commitment to addressing SDG 11: Sustainable Cities and Communities. These micro-modules form the basis of work currently underway to clearly define and develop related micro-credentials which recognise learning against transparent standards.

- In 2021, ECIU University is consulting with both internal and external partners to establish how we will define and operationalise three distinctive types of micro-credentials:

  - Formal learning as part of regular learning paths
  - Formal learning outside of regular learning paths
  - Non-formal learning as part of other activities, including short courses, work-related experiences and training offered by industry and societal partners

- In 2021, ECIU University will begin a comprehensive programme of professional development to help raise awareness about the role of micro-credentials in driving our change agenda and delivering on the bold vision of building a co-creation learning ecosystem for life-long learning and future work-ready graduates.

- In April 2021, ECIU University will launch a free online course through the FutureLearn platform on "Higher Education 4.0 - Skills, Credentials and Employability" which aims to develop greater European and global awareness and understanding of the change imperative, and the potential of micro-credentials as part of a new co-creation learning ecosystem.

# V.II. ECIU UNIVERSITY: QUALITY ASSURANCE

ECIU University will not compromise on quality. One of the challenges identified through our own research and the work undertaken by the European Commission is that many stakeholders do not trust or place much value on digital badges and alternative awards in comparison to quality assured university qualifications. This issue is something that ECIU University will address by ensuring that our micro-credentials are based on the same quality assurance principles and transparent processes applied to existing qualification awards.

Accordingly, we support the European Commission's intention to address quality assurance of short learning courses leading to micro-credentials. In a similar vein, ECIU University supports the proposal to establish a register of trusted issuers and mutual recognition at a European level. ECIU University is premised on leveraging our already established reputation for quality and learning innovation, and the development of micro-credentials that serve our mission of wider societal impact. It follows that we will not waiver from a commitment to academic quality and rigorous standards to ensure the high value and trusted integrity of ECIU micro-credentials in efforts to redefine the traditional credential ecology.

# KEY ACTIONS

- In 2021, ECIU University will explore the alignment of micro-credentials with European Standards and Guidelines, and actively contribute to setting European standards as they emerge, to ensure that these standards can be applied at scale, creating an agile and truly European ecosystem.

- In 2021, ECIU University will draw European lessons from the efforts to adapt national qualifications frameworks and support a major national micro-credentialing initiative in Ireland through Dublin City University's (DCU) contribution to a €12m funded project being led by the Irish Universities Association.

- In 2021, ECIU University will actively engage with key stakeholders contributing to the Erasmus+ MICROBOL project in order to help examine and understand how the Bologna tools can support the quality assurance and wider uptake of micro-credentials.

- In 2021, leading ECIU University partners will continue to support the work of the European MOOC Consortium (EMC) and contribute to ongoing discussions concerning quality assurance standards and processes for the design and delivery of micro-credentials.

- In 2021, ECIU University is establishing an array of Innovation of Education Labs at each partner institution to share best practices and deliver a programme of professional development, with a particular CBL focus. This initiative recognises the importance of frontloading for quality through the learning design process.

- In 2021, ECIU University will explore the facilitation of micro-credentials via European Blockchain Services Infrastructure (EBSI) in the recently funded CEF-project Micro-Block that sets up a blockchain node in Tampere University and examines how the European exchange of micro-credentials can be managed with Blockchain.

- In 2021, ECIU University will monitor the uptake of micro-modules and the learner experience as well as continue our programme of research on the development of micro-credentials in order to apply key findings back into future practice and share wider lessons with the European higher education community.

# V.III. ECIU UNIVERSITY: CREDITS AND RECOGNITION

In order to cater for flexible pathways, ECIU University is committed to develop micro-credentials which have the same value and high status of existing university awards and qualifications. ECIU University is committed to the micro-credentials movement and to create a functioning European ecosystem connecting cities, regions, enterprises, stakeholders, researchers and learners to solve challenges requiring specific European multi-disciplinary approaches and leading to societal impact.

To achieve this, a continuous dialogue about the position of micro-credentials in wider national and European qualification and recognition frameworks is necessary. Significant steps and challenges exist on this road, not least the differing levels of institutional autonomy across EU member states regarding both the opportunity and approval processes required to develop recognised awards and credentials. European Universities will pave the way forward. Table 1 illustrates the level of variation across EU member states in terms of authority for universities to approve academic programmes, including the development of micro-credentials. This information is the result of a study done by ECIU University amongst its members.

## VARIATION OF PROGRAMME APPROVAL ACROSS EUROPE

| Institutions have full or almost full authority for accreditation. No, or only a few, changes required. | Semi-authority on approving programmes (which do not lead to a professional qualification) and micro-credentials/modules (unclear). | Semi-authority on approving programmes and micro-credentials/modules (prequalification needed from external sourc | No authority on programmes, but micro-credentials/modules can be approved by the institution. | Institutions have no authority to accredit programmes or micro-credentials/modules. |
|---|---|---|---|---|
| **Finland Norway Ireland** | **Sweden** | **Denmark** | **Spain Portugal Lithuania** | **Germany The Netherlands Italy France** |

Table 1: Level of authority for institutions on approving academic programmes (D7.1.1: Report from a survey of accreditation systems in ECIU University partners)

A primary challenge, also recognised by the European Commission, is that of ensuring that micro-credentials are broadly recognised. They need to enable learners to complete an array of valued activities, while also fulfilling criteria that can lead to formal recognition of these achievements, analogous to those of learners undertaking macro-credentials. Macro-credential is used here to refer to existing qualifications such as undergraduate degrees and postgraduate masters, which currently serve as the gold standard of university education. Higher education is all about the development and cultivation of higher order knowledge, skills and competences and the ECTS provides a trusted and recognised mechanism to make the learning outcomes, estimated workload and value of a short learning experience visible. The use of ECTS can support shorter courses and our own micro-modules to become recognised and potentially stackable in a transparent way leading to a micro-credential.

A key pitfall to be avoided is that of micro-credentials existing in isolation, unmoored, with limited inherent value, or as a series of ad-hoc badges or recognition certificates at individual universities, with limited currency amongst employers and in wider societal European contexts. Additionally, the word "recognition" should also be viewed from a different, complementary perspective: that micro-credentials, as well as being recognised within such relevant qualification frameworks, should also themselves serve as recognition of valued and socially productive skills and competence development, which may not be recognised sufficiently within existing qualification frameworks at present. Examples of such skills and competences include not only those which are described as "transversal", but also affirming skills and competence development within the workplace that serve an important retraining and upskilling agenda for the development of human capital and a future-ready workforce.

# KEY ACTIONS

- In 2021, ECIU University will engage in a process of consultation with key staff involved in regulatory approval of academic qualifications in each partner institution to better understand and support internal approval processes for the formal recognition and development of micro-credentials, and to scale this to the European level in an agile way.

- In 2021, ECIU University will develop a pragmatic and solution-oriented approach to kick-start and ensure common recognition of micro-credentials based on ECTS across partner institutions, creating an agile and responsive European ecosystem. This includes both academic and functional mechanisms for mutual alignment of offerings, in addition to exploring the feasibility of a common ECIU University framework for micro-credential recognition.

- In 2021, ECIU University will adopt a framework and explore the development of a unique suite of micro-credentials for the recognition of 21st Century skills. This initiative will integrate formal, informal and non-formal earning experiences through a professional learning portfolio to assess skill development against transparent standards.

- In 2021, ECIU University seek to learn from major national micro-credentialing initiatives, including the Dutch Surfnet project involving Twente University and Dublin City University's contribution to a €12m government funded project led by the Irish Universities Association.

# V.IV. ECIU UNIVERSITY: STORAGE, PORTABILITY AND PLATFORMS

While micro-credentials can be issued in various forms, the storage of assessed learning outcomes and skills and competences in a portable learner-owned digital portfolio is a defining feature of ECIU University, irrespective of where people learn. Therefore, it is essential to have a suitable platform to enable easy storage, sharing and the portability of micro-credentials. This requirement raises crucial issues concerning the selection of appropriate technological solutions which provide a sure, trustworthy and sustainable infrastructure upon which micro-credentials can be developed, hosted, and verified. For this reason, ECIU University commends efforts by the European Commission to develop the Europass digital credentials infrastructure based on open standards and data models to allow for interoperability and the seamless exchange of data between platforms. We share the

view that learners must own their own credential data, and future platform developments should enable smart learning pathways and more personalised forms of learning where people can profile a diverse range of personal achievements and career experiences at different points in life through a competence wallet.

A complex ecosystem of platforms and processes already exists at each partner institution. However, ECIU University is committed to developing practical and evidence-based European solutions, which reflect common European ambitions. This needs to cope with both the inherent systems diversity of the universities as knowledge providers, while also enabling a pan-European framework for issuing micro-credentials across partner institutions. The core requirements underpinning what is required in a technical and theoretical sense is that the Europass, and other interoperable digital platforms, enable three types of micro-credentials defined within the scope of ECIU University:

- Learning **within regular learning paths**: Modules and micro-modules offered by all ECIU University partners where assessed learning outcomes and ECTS credits can be linked to an existing programme of study to provide a more flexible, yet coherent learning personalised pathway that when stacked together may also lead to a degree. This shows how micro-credentials are also an opportunity for conventional students to build on their existing awards.

- Learning **outside of regular learning paths**: Micro-modules and CBL experiences offered by all ECIU University partners, where assessed learning outcomes and ECTS credits can be connected to provide a more flexible, yet coherent and personalised learning pathway and when stacked together may also lead to a micro-credential.

- Learning resulting from **non-formal** short learning experiences as well as **informal** learning opportunities, including on the job training, work-related learning, and so on. Such learning can also target life-long learners, those seeking to upskill while in employment, taking into account the time demands of employees and their work/life balance. In some cases, personalised learning may need to be assessed in a reflective portfolio that then leads to a micro-credential. This type of micro-credential poses particular challenges in terms of proof of learning outcomes against transparent standards, as much of the learning may not be non-ECTS aligned.

The key point is that selection of specific platforms is complex, as there are many local, national and EU requirements that need to be taken into account. It is evident that in the future preferred micro-credential platforms will be those designed with the Europass in mind and that support full interoperability.

It is key that the roadmap for micro-credential platform development includes experimentation with new and emerging functionality arising from AI and Blockchain technologies, which are likely to open up new possibilities for smart learning pathways, personalised learning and the use of learning analytics, as envisaged by ECIU University. It is important that more European educators are actively engaged in these developments, as a recent systematic literature review on AI in higher education reveals the danger of technology driven solutions for the future with limited educational input (Zawacki-Richter et al., 2019). ECIU University is committed to promulgating an interdisciplinary approach to the development of future hi-tech, hi-touch European learning environments.

# KEY ACTIONS

- In 2020, ECIU University identified and reviewed the functions and technical specifications of a wide range of platform solutions for micro-credentials and interviewed each provider in order to unpack the features and affordances of micro-credential platforms. Key findings from this work will be shared more widely in 2021 with the European educational community.

- In 2020, ECIU University began iterative alpha pilots at partner institutions to test the features of five shortlisted micro-credential platforms. Initial conclusions suggest that none of the existing platforms match the full requirements and vision of ECIU University, itself a valuable finding. Over 2021-2022 the most promising solutions will be customised in a beta (wider) pilot as we seek to develop a fit for purpose micro-credential infrastructure.

- In 2020, ECIU continued to engage in the DigiHE project and monitored two other important initiatives: (i) a pilot of the Dutch Surfnet solution at Twente University and (ii) Dublin City University's launch of a credit-bearing micro-credential available online through the FutureLearn platform along with its strategic partnership with Digitary. Lessons from these experiences will continue to inform developments over 2021.

- In 2020, ECIU university partner Tampere University co-lead a delphi study in the MicroHE-project to understand the key driving factors and impacts of micro-credentials in the short and long-term. This activity led to the identification of several potential scenarios for the adoption of micro-credentials. ECIU University will seek to leverage on the key drivers and proactively address the barriers that stand in the way of wide-scale adoption of micro-credentials.

- In 2020 Tampere University piloted an AI-based solution for personalised skills and competence retrieval from data. The pilot offered valuable information on how an AI can help in personalised guidance and support for skills and competence development for life. In 2021 we will continue experimenting with AI in the context of building ECIU University digital ecosystem, including the connections of AI to the developments of micro-credentials.

- In 2021, ECIU University, in addition to the above beta pilots of selected platforms, will be engaging in a programme of research to more fully document and better understand the institutional requirements for micro-credentials and the value adding aspects of micro-credentials for learners. This research includes learner, administrator and academic perspectives at each partner institution.

In 2021, ECIU University will actively engage with and endeavour to help shape further developments with the Europass. We strongly support the European Commission's work to develop and further enhance a common secure, trustworthy and interoperable platform for all European citizens to showcase their learning and career achievements.

ECIU University recognises that platforms are evolving at a rapid pace which requires a dynamic iterative approach as we pilot, respond to and seek to influence the future development roadmap. Therefore, throughout 2021 we will develop an IT strategy on how to support ECIU University with the use of cutting edge and fit for purpose digital tools.

# V.V. ECIU UNIVERSITY: SUCCESSFUL UPTAKE

The provision of a clear roadmap in developing a common European approach to micro-credentials has come at an essential point in efforts to reimagine the future of universities. While this paper discusses the underlying short-term drivers for systemic change and outlines key steps that ECIU University is taking to translate our bold vision into transformative action, significant demand and supply-side challenges must not be underestimated in promoting successful uptake. Actions outlined above are cognisant of these challenges and in this final section we propose a number of guiding beacons to help shine further light on the road ahead and provide direction in efforts to mainstream micro-credentials as a key feature of the future European higher education landscape.

**A living common language** that defines and describes the concept of micro-credentials in an easily accessible and understandable manner for learners, educators, policy-makers and industry and community stakeholders.

**A commitment to rigorous academic standards** for the assessment of formal and informal learning outcomes which ensure micro-credentials are widely perceived by employers, community groups and society at large as having the same currency and trusted integrity as other university-level qualifications.

**A stronger focus on demand driven and co-constructed** micro-credentials in partnership with employers and related professional bodies to ensure they fulfil labour market gaps, specific skills and competences shortages and knowledge to prepare future work-ready graduates, life-long learners and active citizens for the new digital society.

**A comprehensive programme of professional development** and related peer learning opportunities for European educators to promote better understanding of the change imperative and why we need different types of qualifications for different purposes at different points of life.

**A targeted funding round to foster innovation** in European micro-credential development as well as to help build stronger fit for purpose IT infrastructures as part of the wider agenda of the Digital Education Action Plan 2021-2027 to develop a high performing higher education ecosystem.

**A significant investment in institutional taught leadership** to help manage and support complex system change without losing sight of the longer-term vision and disruptive potential of new developments in micro-credentials to help form a European university as ecosystem.

**A serious commitment to collaboration** between higher education institutions, national qualification agencies and related European professional bodies and organisations to build the policy and regulatory architecture for a common European approach to micro-credentials.

**A stronger community of European developers** for the technical infrastructure to design, implement and support interoperable platforms based on open standards and that allow Europass integration to store, share and enable the portability of micro-credentials, looking into public-private partnerships at European level to speed up and scale the European micro-credentials movement.

**A greater investment and commitment to research** to better understand the key barriers and enablers to successful micro-credential implementation at both an institutional and national level, including more dialogue and active engagement with employers and related professional bodies.

# VI. CONCLUSION

ECIU University believes the imperative for systemic change is overwhelming and is forging a new path with speed and a sense of direction as we develop more flexible models of learning and innovative industry and societal partnerships for the future. Micro-credentials are crucial to this bold change agenda.

ECIU University is committed to expanding the micro-credentials movement, creating a functioning European ecosystem connecting cities, regions, enterprises, stakeholders, researchers and learners to solve challenges requiring specific European multi-disciplinary approaches and leading to societal impact.

However, we also conclude that we do not have every solution as there are unknown building blocks that will need to be also explored. The fluidity and dynamic nature of the changing higher education ecology speaks to the significance of this work.

ECIU University commends the work of the European Commission in moving towards a common European approach to micro-credentials. With this paper we add new layers to the EC report, explaining how we push the boundaries and support the development of the micro-credentials movement.

While the micro-credential landscape is likely to continue to evolve at pace, and with some uncertainty, this does not reduce the imperative for change, especially if European universities are to effectively respond to the changing nature of work, future societal needs and major global challenges. Micro-credentials are an opportunity to broaden the access to education beyond the traditional students, to life-long learners, creating new learning pathways.

The specific steps and actions outlined in this paper, along with the above guiding beacons, recognise the need to move beyond common definitions, foundational frameworks and initial plans as in many respects the journey has only just begun. The question of how other European universities, employers and related professional bodies as well as employees will respond to micro-credentials has yet to be answered. Accordingly, there is a need for further research and education to strengthen and build on the work that has already been done. While ECIU University hopes to make a valuable contribution to this work, there is still an important role for the European Commission to help promote and incentivise uptake. Moreover, we will present an updated position paper in 2022 which will review the implementation of micro-credentials from the ECIU perspective and identify the unknown issues or building blocks that the ECIU University has encountered as we dive deeper into micro-credentials.

Ultimately, ECIU University believes that the viability and success of micro-credentials as an agent of transformative change will depend on the availability of new funding and the agility of European and National qualification agencies and frameworks to adapt and respond to powerful change forces. This agility will require strategic vision, breakthrough leadership and a commitment to working in cooperation and partnership with a diverse range of stakeholders for a common goal. The ultimate prize of a European approach to micro-credentials is truly significant as it will steer a fundamentally different path for European universities for generations to come.

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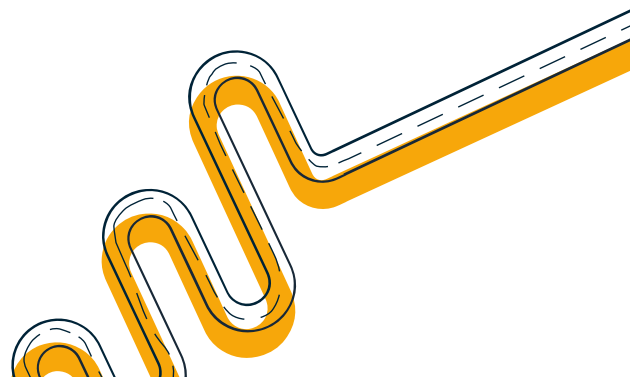
# ABOUT ECIU

## 13 PIONNEERS

- **University of Twente** (The Netherlands)
- **Aalborg University** (Denmark)
- **Dublin City University** (Ireland)
- **Hamburg University of Technology** (Germany)
- **Kaunas University of Technology** (Lithuania)
- **Linkoping University** (Sweden)
- **Tampere University** (Finland)
- **Universitat Autonoma de Barcelona** (Spain)
- **University of Aveiro** (Portugal)
- **University of Stavanger** (Norway)
- **University of Trento** (Italy)
- **Institut National des Sciences Appliquees** (France)
- **TEC de Monterrey, associated partner** (Mexico)

## 32 ASSOCIATES

**1** NATIONAL AUTHORITY

**6** REGIONAL AUTHORITIES

**8** CITIES

**13** ENTERPRISES

**2** ASSOCIATIONS

**2** AGENCIES

## UNITING OVER...

**489**
RESEARCH GROUPS

**147**
FACULTIES

**46,688**
STAFF, INCLUDING
27,182 ACADEMIC
STAFF/RESEARCHERS

**298,000**
STUDENTS

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