



The State of Play of Micro-credentials:

IRELAND



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Acronyms and abbreviations

CPD	Continuing Professional Development
CSO	Central Statistics Office
DAB	Designated Awarding Bodies
DCU	Dublin City University
ECTS	European Credit Accumulation and Transfer System
EHEA	European Higher Education Area
ETB	Education and Training Boards
EQF	European Qualifications Framework
GDP	Gross Domestic Product
HE	Higher Education
HEI	Higher Education Institution
ICT	Information and Communication Technology
MC	Microcredential
NTF	National Training Fund
NQA	National Qualifications Authority
NQF	National Qualifications Framework
OECD	Organisation for Economic Co-operation and Development
PLC	Post-Leaving Certificate
PoMiSA	Potential of microcredentials in Southern Africa
RCSI	Royal College of Surgeons in Ireland
RPL	Recognition of Prior Learning
RSF	Regional Skills Fora
TU	Technical University Dublin
UL	University of Limerick
UNESCO	United Nations Educational, Scientific and Cultural Organization

CONTEXTUALISATION

IRELAND: OVERVIEW & CONTEXT



This section of the report aims to provide a comprehensive overview of Ireland, including broad demographics, socio-economic context and technological saturation in Ireland. It particularly focuses on the education system, highlighting features relevant to microcredentials such as their potential, constraints and the broader context that may impact their implementation and success in Ireland. (This report also refers to Micro-Qualifications, which are the Further Education and Training (FET) equivalent of micro-credentials.)

0.1 Population profile

The total population of Ireland on Census Night, Sunday, 3 April 2022, was 5,149,139. This represents a growth of over 8.1% since the 2016 Census. The Central Statistics Office (CSO) revealed the following trends and characteristics:

Population:

The main changes in the population profile of Ireland (CSO, 2022b) were as follows:

- ▶ The population surpassed five million for the first time in 171 years.
- ▶ The demographic is diverse with over 4.3 million holding Irish or dual-Irish citizenship and 12% non-Irish citizens (primarily from UK, Poland, Romania, India and others).
- ▶ The median age has increased to 38.8 years, continuing the trend of an ageing population.

Education Profile:

The main changes in the education profile of the population (CSO, 2022b) were as follows:

- ▶ The percentage completing education with a level of lower secondary or below dropped to 23% (from 32% in 2011).
- ▶ The proportion completing education with at least an ordinary degree increased to 34% (from 25% in 2011).
- ▶ 53% of the population had a third-level qualification (CSO, 2022c) i.e. 36% increase since 2016 (and 20% higher than EU average

at that time). The growing demand for higher education indicates a mature market, interested in upskilling and professional development.

0.2 Socio-economic indicators

Statistics (CSO, 2024) show Ireland's labour market performed strongly in 2023, with an employment rate of 74.2% in Q2 (a 25 year high). Unemployment was low at 4.6%. High employment creates a competitive jobs market as employees frequently switch employer, increasing demand for upskilling options. In the CSO Survey on Formal Education (CSO, 2022a), 69% of adults state their reason *"for participation in formal education was to improve my career prospects"* while *"(40%) reported that the main outcome from their participation in formal education was better performance in their present job."*

Ireland's economy is strong, driven by multinationals, with services contributing approx. 70% of Gross Domestic Product (GDP), led by tech., finance, and professional services. The industrial sector, accounts for approximately 29% GDP - primarily pharma. and medical devices. Agriculture, approximately 1% of GDP, is key for exports and rural employment.

0.3 Technological saturation indicators

In 2023, Ireland maintained high technological saturation and remained a key hub for the tech industry, hosting 16 of the top 20 global tech companies. Google, Facebook, and Microsoft have their European headquarters here, reinforcing Ireland's critical role in the global tech sector (Tech Behemoths, 2024). Over 106,000 people work in Ireland's ICT industry, showing technology's deep penetration of the workforce and economy (IDA Ireland Technology, 2024). Ireland is the second-largest exporter of computer and IT services globally, with annual exports exceeding €50 billion.

The 2023 Census (CSO, 2024) reports the following tech saturation in the domestic setting, showing relatively high digital-literacy:

- ▶ 94% of households have internet-access. (Those without internet-access reported lack of availability (i.e. showing the urban/rural divide), lack of knowledge/skill or lack of a need).
- ▶ 96% use their phone for internet access, 29% use a desktop computer, while 62% use a laptop and 43% a tablet.
- ▶ Internet use is high e.g. 80% use online shops, banks and services while 93% use email.

This technological saturation level posits well for the uptake of hybrid or fully online learning. Libraries give free wifi, providing access to the remaining 6% if they wish to use it (*Local Government Ireland, Libraries, 2024*).

0.4 A profile of the Irish education system

Citizens Information (2022) shows the structure of the Irish education system as follows:

1. **Pre-school education:** Education is provided in the Early Childhood Care and Education Scheme (for 3-5 year olds), through community and private childcare services. The National Childcare scheme provides financial support for parents.
2. **Primary school education:** Students (5–6 year olds) begin 8 years of formal education.
3. **Post-primary school education (or “secondary school”):** Students must complete 3 years of secondary school (minimum) or reach 16 years of age. Table 1 shows the state exams at the end of post-primary education, and the students those exams are designed for.

Table 1: Post-primary State exams and typical student of those exams

State Exam	Typical student
Established Leaving Certificate	Students interested in higher education. This exam is the main basis on which students are allocated places in universities and colleges of education.
Leaving Certificate Vocational Programme	Students with a preference for technical subjects and a vocational focus. This can also lead to places in universities and colleges of education.
Leaving Certificate Applied Programme	Students preparing for adult and working life through relevant learning experiences. Particularly aimed at practical and vocational programmes, it can enable students to join Post Leaving-Cert (PLC) courses.

4. **Special needs education for students with disabilities:** Education is provided for those with special educational needs. This spans specialist support in mainstream schools to specialist support in schools designed to handle students’ specific needs.
5. **Further Education and Training (FET):** covers education and training after second-level education and up to third-level education. This includes PLC courses run by the Education and Training Boards (ETBs), apprenticeships and Springboard+. FET provides supports for those with special needs (*Further Education Supports, 2024*).

6. Third-level education consists of the Universities, Institutes of Education, Colleges of Education and Specialist Colleges (funded by the State), and a growing number of private institutions (which are not state-funded). These provide programmes at Bachelor, Master and Doctorate levels. Third-level education provides options also for those with special needs and disabilities to access education (*DARE, 2024; Further Education Supports, 2024*).

Note: QQI validates and assures the quality of third-level qualifications in the private and independent sector. Designated Awarding Body (DABs) validate their own programme quality-assurance procedures. The role of the QQI is to ensure institutional quality assurance to develop and maintain award standards. (See section 4.1 on Quality Assurance).

0.5 Lifelong learning in Ireland

In Ireland, there is a strong focus on lifelong learning and professional development, supported by policies such as the Government's National Skills Strategy 2025 (OECD, 2023), Springboard+ and Skillnet Ireland. These emphasize upskilling/reskilling in response to evolving market skill-needs and technology. Acquiring skills can take various forms including on the job training, short courses, industry certification, formal education and training programmes.

The positive attitude toward continuous learning is aided by government funding efforts (e.g. Skillnets and Springboard). Socially, Ireland values lifelong learning. An Aontas survey shows that 65% of adults aged 17–64 had engaged in learning in the previous 3 years (Meyler et al., 2023).

Irish Industries collaborate with Higher Education Institutes (HEIs) and Further Education and Training colleges (FETs) to design and develop short courses and programmes that are relevant to today's market while aiming to future-proof graduates for emerging trends and required skills. In this educational and industry/academia collaborative context,

microcredentials and micro-qualifications hold great potential in Ireland, offering flexible, targeted learning that can quickly adapt to labour market demands. They benefit career changers and professionals upskilling or enhancing employability. These short courses complement traditional qualifications, allowing learners to showcase specific competencies to employers (European Centre for the Development of Vocational Training, 2022b). The national MicroCreds initiative, led by the Irish Universities Association (IUA) – with seven Universities involved, promotes lifelong learning with agile courses targeting skill shortages. Similarly, FET's Micro-Qualifications address skills gaps while supporting lifelong learning.

A dynamic education system, supported by socio-economic and technological factors, fosters the growth of microcredentials. While challenges exist, the benefits such as improved employability, lifelong learning support, and closing skills gaps) are substantial.

0.6 Summary and recommendations

Overall, Ireland's population is ageing. The median age of the working population has increased to 38.8 years and with that, comes a demand for lifelong learning. Ireland's economy is strong and recruitment is competitive. Employees move regularly increasing the demand for short-term, flexible, skills-focused learning. Microcredentials and micro-qualifications can satisfy this need, delivering job-ready staff to meet employers' and learners' needs. Ireland's robust accreditation framework ensures the quality of those credentials.

Recommendations:

Irish Industries should continue to collaborate with educational institutions to:

- ▶ produce flexible, quality-assured, short courses that are relevant to ever-changing industry requirements and that learners can take while working in order to gain credits.
- ▶ constantly revise course content to meet emerging needs and skills gaps.
- ▶ deliver job-ready graduates.



CHAPTER 1

ANALYSIS OF THE STATE OF PLAY OF MICROCREDENTIALS IN IRELAND

Microcredentials, although new in name, have existed as a concept in Ireland since the start of the National Qualifications Framework (NFQ – section 4.1.2) in 2003. Short courses, e.g. supplemental, special-purpose, and minor awards existed on NFQ and are the forerunner of microcredentials.

Before discussing Microcredential Conceptualisation, we provide a definition of microcredentials from the Irish Universities Association (which is aligned with the European Council's definition):

A micro-credential is the record of the learning outcomes that a learner has acquired following a small volume of learning. These learning outcomes have been assessed against transparent and clearly defined standards.

Courses leading to micro-credentials are designed to provide the learner with specific knowledge, skills 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.

(IUA, 2024a)

1.1 What are the key political, economic, social and technological drivers and attractors for adopting microcredentials in Ireland?

The National Skills Strategy 2025 (OECD, 2023) shows policymakers' commitment to short, flexible courses to reduce workforce skill-gaps, improve economic growth, and aid recovery post-pandemic. In June 2022, the EU recommended a European approach to microcredentials. This aimed to support development, implementation and recognition across borders (Proposal for a Council Recommendation on a European Approach to Micro-Credentials for Lifelong Learning and Employability, 2022). The "European Commission views Ireland as a "microcred champion" – the first European country to

deliver microcredentials (Ramsey & Donohue, 2022). Microcredentials are gaining traction in Ireland due to key political, economic, social and technological drivers, such as:

POLITICAL

- ▶ **Policy and Regulation:** Irish Government, politicians, policymakers and educational leaders are increasingly focusing on microcredentials (Brown et al., 2023). University microcredentials and FET micro-qualifications were separately endorsed by Government Ministers (Department of Further and Higher Education, Research, Innovation and Science, 2024; Dept. of Enterprise, Trade & Employment, 2023; IUA, 2023).
- ▶ **National Training Fund (NTF)** stimulates uptake of microcredentials (HEA, 2024a).
- ▶ **Recognition and Portability:** National frameworks ensures microcredentials are recognised and are (often) stackable (i.e. possible to combine credits for a larger award), within and across educational institutions. thus enhancing their value.

SOCIAL

- ▶ **Stakeholder Engagement:** Policymakers collaborate with educational, employers, and other stakeholders, to design and implement microcredential frameworks in Ireland (HEA, 2024b; SOLAS, 2018) to suit the learner. With an ageing population, HEIs and FETs must cater to non-traditional students, such as adult learners and professionals seeking further education. **Note:** These demographic changes are happening in many countries across the world (Lee & Scott Sembrat, 2023).
- ▶ **Lifelong Learning Culture:** Ireland has a long tradition of valuing continuous learning. Microcredentials suit this, providing flexible, short-term courses for upskilling and reskilling. Learners seek ways to upskill flexibly and efficiently (Casey et al., 2023) without needing to commit to a full degree, diploma, certificate or other award.

- ▶ **Improve Access to Education:** Short, flexible, recognised, accredited courses, can work well for underrepresented groups e.g. unemployed returning to the workforce, women returning to the workforce. Also, microcredentials that match skills needed in industry helps an individual stay competitive (Walsh, 2021) and improves employability of a learner/returner.
- ▶ **Cost-Effectiveness:** As costs associated with traditional degrees rise, microcredentials offer an economic and affordable alternative for skill development (Lee & Scott Sembrat, 2023).

ECONOMIC

- ▶ **Technological Developments in the Workplace:** Rapid changes in workplace technology require employers to quickly upskill their employees. The need for “job ready candidates” drives demand for microcredentials. Microcredentials can help learners acquire emerging skills and competencies in areas such as AI, cybersecurity, project management, digital marketing, data visualization and more.
- ▶ **Industry-Relevant Flexible Learning:** The labour market is a significant driver for microcredentials. As 53% of the Irish population have a third-level qualification (CSO, 2023), microcredentials are an agile way to rapidly upskill employees and address skills-shortages (in rapidly growing sectors such as ICT, Sustainability, etc.). The need for “job ready candidates” drives demand for microcredentials (Coursera, 2023). When co-developed by educators and industry, Microcredentials 1) ensure relevance to the job market and 2) show Irish institutes as forward-thinking, meeting employer and employee needs.

TECHNOLOGICAL

- ▶ **Tech. Developments in Education and Society:** Rapid developments in educational technology enabled the creation and delivery of microcredentials. Digital platforms and technology saturation rates enhance flexibility, accessibility, and scalability, increasing appeal to learners (Pirkkalainen et al., 2023). AI algorithms can create personalised learning plans, aligning with microcredentials that meet specific learner needs such as a career goal. (This needs a HEI, FET and a sector-wide approach, but may happen in the future).
- ▶ **Tech. Industry in Ireland:** As a global tech base, Ireland has benefitted from its strong connections with technology companies which recognise the value of upskilling and have aided adoption of microcredentials.

1.2 How do these drivers and attractors align with current educational and workforce trends?

Education and workforce trends are finding alignment, for example:

- ▶ Opportunities with tech and other global industries and need for associated skill sets mean Irish educational directions are being configured to ensure a pipeline of talent.
- ▶ Collaboration between education and industry is resulting in an agility to respond to trends in order to deliver skills that are in short supply in the workforce.
- ▶ Accredited content (e.g. badges, awards) provide evidence of quality skills attained in quality content and this increases employability.
- ▶ Flexible courses allow students to participate regardless of location and it often allows self-paced learning. This makes study feasible for learners in employment.

- ▶ HEIs appreciate that recognition from different countries is important to the learner. The standard currently used for this purpose is the European Learning Model (ETF, 2023), Europass, which allows for stacking portable, flexible, accredited microcredentials from various countries.
- ▶ Microcredentials have a National Framework of Qualifications (NFQ) level, allowing for credits and awards to be accumulated.

1.3 How are microcredentials defined and understood by various stakeholders (educational institutions, students, employers, policymakers) in Ireland?

The official IUA definition of microcredentials is provided at the start of this chapter. Defining characteristics of microcredentials include the fact that they are short, flexible and (often) stackable into a complete award, if the learner desires that (Varadarajan et al., 2023). There are various diverse stakeholders in microcredentials, each with different interests and perspectives. These differing views combine to produce well-rounded microcredentials to meet the needs of *all* stakeholders.

Varadarajan, Koh and Daniel (2023) outline the specific interests of 4 key stakeholders as:

- ▶ **Learners** view microcredentials as cost-effective, flexible pathways to rapidly upskill and create employment opportunities.
- ▶ **Higher Education Institutions (HEIs) and FETs** expect accreditation (to build trust in microcredentials). They explore ways to offer microcredentials as standalone or integrated into new or existing programmes with a focus on competencies.
- ▶ **Employers** expect clarity of the competencies gained through microcredentials and view microcredentials as a means to assess specific skills and enhance workforce readiness.

- ▶ **Government Agencies** (i.e. policy-makers) endorse Microcredentials through the National Skills Strategy. They expect high graduate employability with competitive tuition fees and view microcredentials as a way to address workforce needs and economic growth.

Funders are also stakeholders and this group includes employers (along with government agencies) aiming to improve workforce skills.

1.4 How do/could stakeholders' views on microcredentials impact their practical implementation?

The following stakeholders' views impact on microcredential implementation as outlined here:

Learners: These stakeholders view microcredentials as below (Varadarajan et al., 2023), with associated impacts:

- ▶ **Short, flexible courses:** The learner is likely to engage with content that fits around their daily commitments. This impacts on the HEI and FET to deliver bite-sized courses.
- ▶ **Career advancement and employability:** Learners give this as one of their main reasons for further study. This incentivises higher education institutions to deliver microcredentials that teach emerging technologies and skills. This also impacts on the Employers, who should request microcredentials covering emerging technologies and skills that are in short supply.
- ▶ **Up-to-date Content:** Learners often embark on a microcredential to build knowledge in a particular area. This impacts on how the HEI design microcredentials, encouraging them to provide up-to-date content that is practical and applicable to the workplace.

Higher Education Institutes (HEIs) and Further Education Training (FET): These (Irish) stakeholders view microcredentials as outlined below with associated impacts:

- ▶ **Accredited:** The HEI and FET Stakeholder groups view accreditation as important, since it shows the content to be of high quality (EQAVET, 2022; ETF, 2023). This impacts on learners' and employers' engagement with microcredentials.
- ▶ **Integration:** HEIs and FETs recognise the importance of microcredentials that are easily integrated into new or existing programmes. This allows microcredentials to be stackable or standalone, impacting on the flexibility available for learners (SOLAS, 2024a; Varadarajan et al., 2023).
- ▶ **Transferability and Portability:** HEIs understand that recognition across different states is important to the learner. They aim to provide portable, accredited microcredentials that can be stacked with microcredentials from a HEI in another country, which can be achieved by following a standard such as the European Learning Model (ETF, 2023), Europass. This extra flexibility appeals to the learner and the employers. The IUA microcredentials project aims to identify mechanisms and key areas for stacking awards.

Employers: This stakeholder group views microcredential competencies as outlined here (Varadarajan et al., 2023), along with associated impacts:

- ▶ **Competencies:** Employers want full transparency of the skills that their employees will have after completing a microcredential, impacting on skills-based hiring trends. This requires the curriculum and content design (for HEIs and FETs) to clearly show valuable competencies, value for their investment, and impacts when marketing their microcredentials. (Neglecting to do that is likely to impact negatively on uptake of courses).

- ▶ **Competitive Tuition Fees:** Employers appreciate competitive tuition fees or funded courses. This impacts on learners' and employers' engagement with, and government funding of microcredentials. It also impacts on employers' budgeting.

Government Agencies: This stakeholder group views microcredentials as below, with associated impacts:

- ▶ **Competitive Tuition Fees:** The Irish Government will provide funding (for 2024-25) through the Micro-Credential Course Learner Subsidy (HEA, 2024a), with competitive tuition-costs helping the learner. (The subsidy is 50–80% of the total tuition fee, with the higher subsidy going towards the priority areas where there is significant employment need). The Irish Government also provide a variety of funding means for FET Micro-Qualifications (Government of Ireland, 2024).
- ▶ **Employability:** Courses addressing skills in key priority areas (e.g. renewable energy, sustainability, construction, AI, cybersecurity, and electronic engineering) will improve employability. The government incentivises learners in these priority areas by providing a 50-80% learner subsidy rate to eligible students on those courses (HEA, 2024a).

1.5 Summary and recommendations

A decision was made in 2022 regarding Microcredit Conceptualisation to take a European approach to microcredentials for lifelong learning. Ireland leads the way in European microcredentials and established a framework for Microcredentials in 2022 (HEA, 2024b).

There are many political, social, and economic drivers for adopting microcredentials in Ireland which align with educational and workforce trends. All stakeholders approach microcredentials from different vantage points. Stakeholders' interests are taken on-board by educators and all stakeholders to produce microcredentials meeting the needs of all.

Recommendations:

Microcredential conceptualisation needs to be agile in order to respond to the evolving needs of all stakeholders. When producing or revising microcredentials, stakeholders must:

- ▶ be mindful of all stakeholders interests (in order to align key political, economic, social and technological drivers with current educational and workforce trends).
- ▶ work together to:
 - » produce flexible learning that is relevant to ever-changing industry requirements.
 - » constantly revise content to meet emerging needs and new skills requirements.
 - » deliver job-ready graduates or upskilled employees.



Aerial shot of University of Galway campus



CHAPTER 2

PUBLIC & PRIVATE SECTOR MICROCREDENTIAL PROVIDERS

2.1 What is the current/projected role of public and private sector providers of microcredentials in Ireland?

The concept of microcredentials has evolved since the Covid-19 pandemic in Ireland. What were continuing professional development (CPD) courses have, in many instances, been changed to meet NFQ criteria and to ensure they meet the knowledge, skills and competencies required to become award-worthy (Walsh, 2021) microcredentials.

Microcredentials are instrumental in: 1) attaining national lifelong learning targets and 2) meeting the European Pillar of Social Rights Action Plan ambition to have >60% of all adults participating in training every year (HEA, 2024a; Walsh, 2021). Microcredentials are provided through public academic institutions and private training organisations (see full list in Appendix 2).

2.1.1 Public Sector Providers (Microcredentials & Micro-Qualifications)

Microcreds.ie, Ireland's national microcredentials project (mainly for the public education sector), aims to convert standalone microcredentials into pathways leading to minor and major awards. Viewing microcredentials through Recognition of Prior Learning (RPL) could lead to exemptions on major awards, for example. Giving students a bite-sized experience of university could foster confidence and encourage them to study further. The short, flexible nature of microcredentials could aid students complete microcredentials and/or awards in their own time.

Microcred.ie is a 'shop window' to drive awareness of microcredentials across the education and learner sectors, in response to rapidly evolving skills needs of society, the economy and the labour market. The Irish Register of Qualifications (IRQ) is another 'shop-window' providing details of over 400 microcredentials: 10% at Level 7, 13% at Level 8 and 76% at Level 9. Most microcredentials are fully online or in a blended learning format. Subject areas selected by individual partners tend to be based on institutional strengths and research expertise.

Irish Technical Universities (TU) offer microcredentials outside MicroCreds.ie e.g. TU Dublin and Atlantic TU (*ATU Micro-Credentials*, 2024; TU Dublin, 2024). These short, flexible courses are funded through Human Capital Initiative (HCI) and are included within the Irish NFQ, assuring "fundlers, learners and employers that programmes are well designed and delivered and assessed to high standards. Awards in the NFQ must be assigned a level, and the programme must be judged to meet the learning outcomes relevant to that level" (Walsh, 2021, p.5).

FET micro-qualifications launched under Skills to Advance in 2024 to future-proof businesses. It has short, accredited, stackable, qualifications designed to fit around work schedules, at little or no cost to employers. Developed with industry, FET micro-qualifications are delivered nationally by the ETB to fill skill-gaps. Topics include Sustainability, Digital, Robotics and more (SOLAS, 2024a).

To address companies' challenges in releasing staff for training, a flexible Micro-Qualification model was developed by ETBs, key stakeholders (including companies), enterprise agencies and Regional Skills Fora. This model offers targeted, bite-sized accredited modules in areas with skill-gaps. Resource sharing across ETBs is streamlined, reducing duplication and complexity. Each micro-qualification of 50 hours and can be standalone or combined for a Special Purpose credential. The ETBs and SOLAS make the qualifications widely available countrywide.

2.1.2 Private colleges

Private Colleges: A review of private sector's microcredentials since 2020, shows that the QQI's Programmes and Awards Executive Committee (PAEC) has approved microcredentials such as:

- ▶ Quality & Regulatory Practice in the Pharmaceutical Industry (Griffith College)
- ▶ Digital Communications & Customer Engagement (Griffith College)
- ▶ Special Education (St Nicholas Montessori School)

(QQI, 2021a)

Note on Online Colleges: As Walsh (CEO of the QQI) points out in the Irish Times, most online colleges such as Coursera offer certificates, but these are not formally recognised by the QQI. He makes the point however that the learning may be more important than accreditation. Regardless, although these colleges may call their courses “micro-credentials”, it is unlikely that these could be stacked to contribute towards a major award.

(“Evaluating Accredited Online Programmes” 2023)

A move to flexible lifelong learning is expected to gain popularity among other Public and Private Colleges, in line with the National Skills Strategy. A Skillnet Ireland report (Annual Report), shows that Skillnet delivered over 11 thousand training programmes to 92,489 people in 2022.

A key point promoted by both public and private microcredential providers is engagement with enterprises to deliver short, flexible training to close industry skills-gaps while providing learners with accreditation. This boosts learner employability, provides skilled-staff to the enterprise and supports lifelong learning (across demographics). Recognising qualifications across borders and providers would be useful. Achieving this requires two concerted efforts:

1. the development of supportive public policies that integrate microcredentials into broader educational and labour systems and
2. collaborative engagement among educators, policymakers and industry leaders

2.2 What benefits do/could users gain from microcredentials offered by these providers?

Microcredentials offer many benefits to learners and to employers. As change is constant in the workplace, education is vital to future-proof careers and deliver skilled staff. Short, flexible, accredited microcredentials suit learners and employers. They can fit around learners’ existing commitments (and learners can build to a full award if they wish). Microcredentials don’t tend to require time away from the workplace and this suits employers (MicroCreds, 2024).

Benefits to Learners include:

“Flexible courses that fit around work and personal commitments:

- ▶ Accredited by leading universities
- ▶ Quality-assured courses
- ▶ Boost career progression or a career change
- ▶ Tailored to your personal interests and career development goals
- ▶ Stay ahead of emerging trends and industry advancements”.

IUA (2024c)

Other benefits to the learner from FET micro-qualifications and other providers’ micro-credentials include:

- ▶ **Pathways into Formal Learning:** Microcredentials may offer an accessible point of entry for individuals who do not meet the traditional entry requirements for tertiary education or who lack the confidence to undertake full award programmes. Microcredentials provide a gentle introduction. (IUA, 2024c).
- ▶ **Continuous Professional Development (CPD) Opportunities:** If relevant to a learner’s career, a microcredential can be recognised as CPD. Many employers require staff to continuously upskill. The prospect of gaining a recognised QQI record of this learning benefits the learner and is recognised by current and any future employers.
- ▶ **Recognition of Prior Learning:** Micro-credentials that are closely aligned with an employee’s role in the workplace have a strong fit for RPL. They focus on recognising skills acquired on the job rather than requiring the employee to attend training. This may enable the learner to enter further education (with exemptions). As shown in the European Commission and Cedefop case study (Hawley Woodall, 2024 and Appendix 4), this enables learners to acquire the full skillset and knowledge necessary to progress to the next level. (See Appendix 1 for overview of RPL-use in relation to minor

and special purpose awards, FET qualifications and microcredentials (listed as part of the IUA MicroCreds.ie project).

Benefits to Employer:

The following are benefits of microcredentials and micro-qualifications for enterprise or employer:

- ▶ “Close skills gaps and improve enterprise productivity
- ▶ Meet emerging enterprise needs and trends
- ▶ Aid career development and progression for employees
- ▶ Expand existing training/professional development programmes
- ▶ Enhance staff retention and improve recruitment
- ▶ Address pandemic related job impacts or other socio-economic shifts”

IUA (2024c)

Other benefits for the employer include having accredited staff (to maintain certified workforce standards) and having a strong culture of training and CPD.

- ▶ **Recognition of Prior Learning:** RPL also benefits the employer as it is more cost-effective and efficient to enable workers to document and validate their competencies through a badge or microcredential rather than releasing them to attend training courses.
- ▶ **Agile bridging of skill gaps:** This is particularly important in economically critical sectors such as ICT, healthcare and renewable energy. Employers can feed skills-gaps back to educators and then co-develop courses to address those skills-needs. This is likely to help attract Foreign direct investment (FDI) (TU Dublin, 2024).

▶ **Certification of Workforce Standards:**

As outlined in the overview and detailed in section 4.1, the QQI promotes, develops, maintains and reviews the NFQ. The NFQ qualification-levels serve as general indicators of an individual's knowledge, skills and competence, reflecting the standards they have achieved through their learning experiences. This enables an employer to assess the certification of their workforce.

2.3 What variations exist in the needs of microcredential users across formal, non-formal and informal education sectors?

Microcredentials are created in diverse contexts with various aims, from enhancing inclusivity to supporting lifelong learning, and are not a single, homogeneous category (Walsh, 2021). A UNESCO report (2018) identifies “microcredential” as an umbrella term for various credentials like nano-degrees, certificates, badges, licenses, and endorsements. The International Council for Open and Distance Education (2020) uses the term “alternative credentials,” which includes academic and professional certificates, digital badges, and microcredentials.

To bring clarity to the field, Brown et al. (2020) propose a credential ecology (figure 1), distinguishing between credit-bearing and non-credit-bearing, and bundled and unbundled credentials. This classifies microcredentials as unbundled, credit-bearing credentials, differentiating them from traditional degrees, digital badges, or shorter courses. However, the distinction can blur; for instance, a non-credit-bearing project management badge might be assessed for recognition of prior learning and count toward a microcredential.

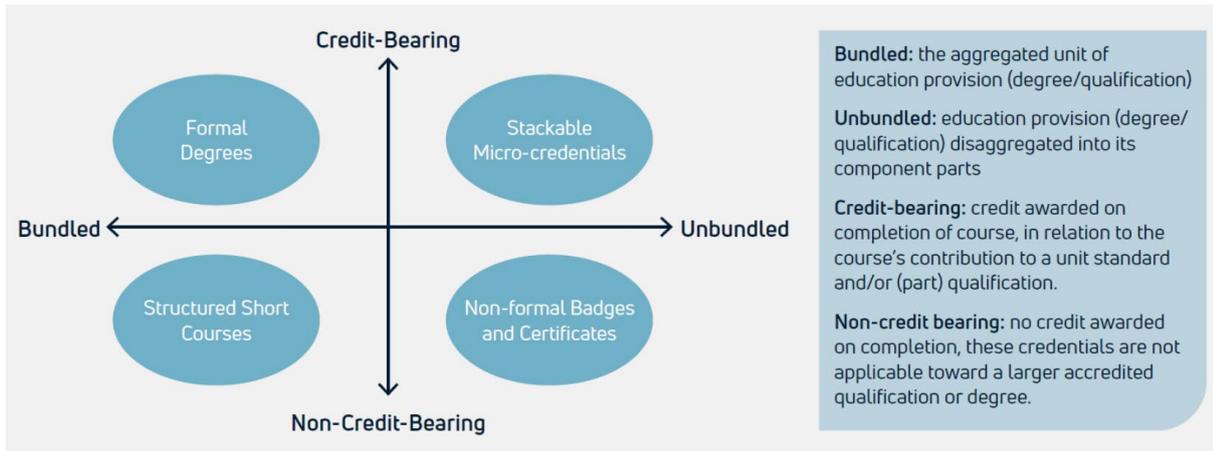


Figure 1: The Credential Ecology (Brown et al., 2020)

See appendix 3 for a review of formal and non-formal education providers, and how they can match a microcredential to the needs of their users. By addressing these varying needs, education providers in Ireland can tailor their microcredential offerings to effectively serve diverse learner populations across the formal, non-formal and informal education sectors.

2.4 Summary and recommendations

Although short courses have existed for many years, the concept of a microcredential has evolved since Covid-19. Microcredentials are provided across a wide variety of topics, by a variety of public and private education providers, spanning the formal and non-formal education sectors.

Recommendations:

- ▶ Continue providing both formal and informal microcredentials from various providers, in diverse topics with a variety of aims.
- ▶ Continue to strengthen collaborations between public and private providers.
- ▶ Continue providing diverse pathways into learning e.g. through RPL.



CHAPTER 3

MICROCREDENTIAL IMPLEMENTATION & EFFECTIVENESS

3.1 What criteria would indicate that microcredentials effectively meet their envisaged educational and vocational objectives in Ireland?

Microcredentials are designed to meet a broad range of educational and vocational objectives. Evaluation of the following success criteria (using Measurement Tools from 4.1.2 as necessary) can determine the effectiveness of microcredentials in meeting their educational objectives:

Educational Objective Effectiveness

1. **Skills Acquisition and Competency:** A key role of microcredentials is to enable learners to acquire new skills and competencies. A 2020 Skillnet report found that a key objective of employees was “internal progression, and the enhancement of skills and knowledge for their current role” (Nic Giolla et al., 2020) Microcredentials can support the achievement of these objectives. Learner assessments and their feedback will help establish if microcredentials have successfully achieved the intended learning objectives.
2. **Learner Satisfaction:** Surveying learners on their educational experience can provide evidence of the success or not of the intended learning objectives. This is actively underway across microcredential partner universities with insights informing activities and strategies.
3. **Accreditation and Recognition:** The accreditation of microcredentials by an educational institution is probably the most trustworthy criterion that indicates that the educational objectives have been achieved (European Centre for the Development of Vocational Training., 2022b). Recognition of microcredentials for further courses of study is linked to this, showing how they can support progression to larger accredited qualifications.
4. **Lifelong Learning Engagement:** Increased microcredential enrolments is an indicator of they meeting their goals,

while also contributing to increased lifelong learning engagement.

5. **Quality Assurance:** Positive feedback from quality assurance processes will build confidence and trust in the microcredential system.

Vocational Objective Effectiveness

1. **Employment Outcomes:** The employment rates or career progression rates of learners who have completed microcredentials should provide good insight into the successful achievement of employment-related objectives (Nic Giolla et al., 2020).
2. **Employer Feedback and Engagement:** Positive feedback from employers regarding the skills and competencies acquired by microcredential holders will be a clear indication that microcredentials are achieving their objectives. A willingness by employers to engage with educational institutions in the co-creation and/or co-delivery of microcredentials would also be a clear indication that employers have confidence in the microcredentials system (Pirkkalainen et al., 2023).
3. **Salary Improvements:** Evidence of promotion and salary improvement will be a clear indicator of improved employability based on the perceived value of the new skills acquired from completing a microcredential.
4. **Evidence of Solving Skills Gaps:** Metrics from employers showing increased job performance, productivity or quality of work in learners who have completed microcredentials are evidence of solving a skills gap. In addition, evidence that skills are being applied in the workplace to address problems will demonstrate that microcredentials are successfully achieving their intended outcomes.

It should also be noted that success may look differently to different stakeholders. Consensus

building between learners, education providers and employers is critical to agreeing a mutual definition of what success looks like (Brown & Nic Giolla Mhichil, 2021).

3.1.1 Comparison Standards

The success criteria outlined above are applicable to traditional educational programmes also. Similar success criteria reflects the importance of a quality-assured approach to the design, development and delivery of microcredentials. Overall, “microcredentials are not seen as a threat in terms of replacing or substituting for formal qualifications” (European Centre for the Development of Vocational Training, 2022a). They are seen as complementary to traditional education and training and an evolution of learning. Using similar success criteria for microcredentials and traditional education reinforces the complementarity of both and highlights the importance of finding the best way for both to work together.

3.1.2 Measurement Tools

Measuring the effectiveness of microcredentials requires a combination of methodologies to gather comprehensive data and insights. Some methodologies for this purpose are:

- ▶ **Surveys and Questionnaires:** See 4.3 for an example of a National Survey to determine *Employer and Employee* perceptions of Microcredentials and their outcomes.
- ▶ **Pre- and Post-Course Assessment:** Comparing pre and post-course assessment results will show if learning outcomes have been met by the learners.
- ▶ **Focus Groups and Interviews:** These can help to focus the learning content to the precise needs of learners, employers, educators and policy-makers.
- ▶ **Learning Analytics:** Collecting, analysing and reporting data on learner performance is a valuable measurement tool to determine the effectiveness of a course.

- ▶ **Case Studies:** Raising awareness of the success of microcredentials in achieving their intended outcomes can be achieved with case studies. These can showcase successes and provide examples of projects or tasks completed due to new skills acquired by completing microcredentials (see appendix 4 for detailed case studies).
- ▶ **Salary Gains:** An employee with improved skills is likely to be promoted or to get a salary increase.
- ▶ **Closed skill-gaps:** Can the employer see that skill-gaps have been closed? If so, that measures the success of the training.

3.2 To what extent are the socio-economic impacts of microcredentials being considered, particularly regarding access, equity, and inclusion in Ireland?

Microcredentials have the potential to significantly reduce socio-economic disparities by enhancing access, equity and inclusion in education and the workforce. This can be maximised by addressing specific barriers and leveraging key enablers.

3.2.1 Access

1. **Increased Accessibility:** Microcredentials offer increased accessibility to learners as much of the short, flexible learning is provided online, hybrid or on-campus. This makes the learning more accessible to a broader range of learners.
2. **Lifelong Learning:** By fostering and facilitating continuing professional development (CPD), microcredentials help learners maintain or improve employability. They can support learners to adapt to changes in job markets especially in sectors at risk from automation or AI. As microcredentials focus on the development of in-demand skills and competencies they can facilitate learners to transition into new roles or sectors.

3. **Funding:** Springboard+ and the Human Capital Initiative increase the accessibility of affordable education. Such Government initiatives reduce financial barriers for socio-economically disadvantaged learners (O'Shea, 2024), leading to increased accessibility.

3.2.2 Equity

- ▶ **Skills Gaps:** Short, flexible, affordable courses are an efficient way to provide skills development opportunities to the unemployed or those from disadvantaged backgrounds. This can fill their skills-gaps and provide qualifications, thus increasing their employability.
- ▶ **Recognition of Prior Learning (RPL):** Through RPL, microcredentials can be used to validate skills, knowledge and competencies acquired through work experience or non-formal learning. Providing accreditation for various learning types is another example of how microcredentials support equity in education.
- ▶ **FET Recognition:** Micro-qualifications give similar recognition e.g. digital badges show acquired skills in hospitality, mapped to an industry competency framework (Hawley Woodall, 2024).

3.2.3 Inclusion

1. **Widening Participation:** Accessible, affordable, skills-specific microcredentials can be attractive to underrepresented groups in education such as women, those returning to education, minorities, disabled learners and those with geographic constraints (Varadarajan et al., 2023). Affordable, flexible, short courses are more accessible for socio-economically marginalised groups, reducing barriers to entry.
2. **Customised Learning Pathways:** Microcredentials offers learners choice and control over their learning preferences,

enabling them to map learning pathways to suit their circumstances. The modular and flexible nature of microcredentials may facilitate stacking towards larger awards in a more learner-inclusive model, promoting a lifelong learning approach. It is important that microcredentials allow learners to apply the learning and credit achieved to traditional major awards, if desired (Pizarro Milian, 2021).

3.2.4 Barriers and enablers

Although the potential impact and benefits of microcredentials are well documented, barriers continue to exist. QQI's 20 year review of the Irish National Framework of Qualifications (2024a) notes the following barriers that could impede progress in the microcredential landscape:

- ▶ Lack of adequate and transparent quality assurance standards
- ▶ Lack of proper documentation of assessment of learning outcomes
- ▶ Lack of formal recognition by national authorities
- ▶ Limited opportunities for accumulating, combining and stacking microcredentials
- ▶ Incompatibility with national qualifications systems. **Note:** this relates to cross-border qualification systems

Many of these barriers can be addressed by leveraging supportive policies, partnerships and collaboration with employers, a lifelong learning culture and adequate financial supports.

3.2.5 Data

Data to evidence how microcredentials have a positive socio-economic impact will underpin the value of providing adequate funding and resources for microcredential design, development and delivery. It will also be important to involve all stakeholders in the microcredential ecosystem. These sources will be critical in gathering suitable evidence:

- ▶ **Government Reports and Statistics:** Government reports and statistics such as

those from national education departments can provide data on enrolments, graduations and demographics, e.g. Ireland's Higher Education Authority and CSO.

- ▶ **Education Institution Reports:** Reports and data on demographics enrolling to Universities, third-level colleges and colleges of further education and training.
- ▶ **Industry and Employer Reports and Surveys:** Industry and employer representative groups produce surveys and studies to gather perspectives on the value and application of educational provisions.
- ▶ **Research Bodies and Think Tanks:** A range of research organisations analyse labour market and education trends and can provide key insights into the impacts of microcredential provision on the workforce.
- ▶ **Industry Organisations:** Publications and industry surveys carried out by professional associations can give unique insights into specific sectors.
- ▶ **Academic Journals and Conferences:** Journals and conferences provide insights into the impact of microcredentials on learners, employers and the labour market.

3.2.6 Policy context

Policies that regulate or support microcredentials can positively influence the socio-economic impact of microcredentials.

- ▶ **Quality Assurance:** Quality assurance frameworks ensure microcredentials meet specific standards and enhance credibility with learners and employers (Brown & Nic Giolla Mhichíl, 2021).
- ▶ **Access and Inclusion:** Policies that subsidise or fully fund microcredentials could make them accessible to a wider range of learners including those from socio-economically disadvantaged or underrepresented backgrounds (O'Shea, 2024). Policies that target marginalised cohorts will positively impact on socio-

economic opportunities for upskilling and reskilling.

- ▶ **Recognition and Transferability:** Microcredential recognition of prior learning policies will facilitate acceptance by employers and educational institutions and will support the stacking of microcredentials towards larger awards. Policies that promote recognition will also support the transferability of microcredentials across jurisdictions and industry sectors, increasing mobility and career choices for learners.

3.2.7 Recommendations

To enhance the positive socio-economic impacts of microcredentials, these recommendations should be considered:

- ▶ **Remove current barriers:** Leverage supportive policies to improve transparency and recognition of quality assurance standards.
- ▶ **Partnerships with Industry:** Develop strong partnerships with industry 1) to align microcredentials with the current and future skills needs of industry and 2) ensure they will be valued and recognised by employers. For example, the Irish HCI-funded MicroCreds project designed a MicroCred-Enterprise framework to promote collaboration between employers and education providers and to help such alliances to address specific skills gaps.
- ▶ **Support and Funding:** Providing *permanent* funding and financial supports for underrepresented and low-income learner cohorts will encourage lifelong learning and workforce development. (The current subsidy is temporary, for 2024-25). Tax incentives could also encourage engagement (OECD, 2023).
- ▶ **Flexible Delivery Models:** Universal Design for Learning principles reduce barriers to underrepresented groups (as outlined by the Centre for Excellence in Universal Design

- CEUD), increasing accessibility to range of learners. (CEUD is Irish and it is the *only* statutory office for Universal Design in the world).

- ▶ **Awareness Raising:** Strategic partnerships with organisations that advocate on behalf of, and work with, underrepresented groups will help to raise the profile of microcredentials with marginalised learner cohorts. Such engagement will foster sustained change in beliefs and attitudes about microcredentials.
- ▶ **Integration with Traditional Education:** To enhance the socio-economic impacts of microcredentials they must be stackable towards larger awards. Credit transfer systems should be smooth and transparent, providing clear pathways to support career advancement.

3.3 How do industries respond to and/or recognise microcredentials, and what challenges and opportunities does this present?

3.3.1 Industry response

Microcredentials are being increasingly harnessed as an efficient and effective mechanism to upskill and reskill the labour force where demand for specific skills or areas of knowledge exceeds the supply of people with trusted traditional credentials (Harvey et al., 2023).

Various industries have been quick to develop and use dynamic microcredentials tailored to their specific needs, for example hospitality and construction.

Industry and employer groups actively collaborate with providers via engagement networks to anticipate and respond to emerging skills needs. Some skills prioritised for funding by the Irish Government are renewables, sustainability, construction, AI, ICT, Cybersecurity (O'Shea, 2024).

3.3.2 Challenges and opportunities

There are a number of **Challenges** for example:

- ▶ Integrating microcredentials into training and development frameworks can present challenges for companies especially those that do not have formal CPD programmes (Nic Giolla et al., 2020). However, recognising and addressing these challenges may enable employers to leverage the opportunities they provide for sustainable, agile and adaptive workforce development.
- ▶ Surveys conducted with employers have shown that they are somewhat uncertain about the value and rigour of microcredentials compared to traditional qualifications. This can impact on their acceptance for upskilling and reskilling (McCoshan, 2023). However, employers have also indicated that they are interested in learning more about microcredentials and this bodes well for increased integration with CPD into the future.
- ▶ Employers consider it important that microcredentials come under a recognised qualifications framework (McCoshan, 2023), making it easier to assess their quality and relevance. These influenced employers integrating microcredentials into CPD and training.
- ▶ Although many labour market stakeholders consider microcredentials to be crucial to their education and training landscape (European Centre for the Development of Vocational Training., 2022b), their alignment with industry needs can be a challenge particularly for fast-evolving sectors such as ICT where significant efforts are required to ensure that microcredentials are relevant and keep pace with changing skills needs.
- ▶ While microcredentials are seen as useful for addressing specific skills needs for narrow purposes they are not necessarily seen as applicable for the wider purposes of career progression and further learning.

This may impact on their integration into career progression planning by HRD units. Situating microcredentials in the context of larger qualifications may help to ease such concerns.

There are also **Opportunities** such as:

The opportunities that microcredentials offer make them a valuable tool for addressing skills gaps and updating workforce competencies.

- ▶ Microcredentials can facilitate targeted learning of specific skills in emerging occupations where demand vastly exceeds supply of traditional credentials (Harvey et al., 2023).
- ▶ The co-design approach of microcredentials offers opportunities for better understanding and co-operation between employers and education providers (European Centre for the Development of Vocational Training., 2022b).
- ▶ Microcredentials promote lifelong and life-wide learning, helping to build a culture of CPD (European Centre for the Development of Vocational Training., 2022a). The flexible and accessible nature of microcredentials allows easy access for workers and less time away from job-related tasks and responsibilities. Also, geographical location is not a barrier. The affordable nature of microcredentials means that they can be a cost-effective way for employers to invest in workforce development.

3.3.3 Employer perspectives

With the growing provision of microcredentials, employers are recognising their utility for professional development and hiring practices. This is particularly the case for roles that require specialised technical skills, in emerging occupations or where roles require continuous upskilling.

Increased Recognition and Value: The Skillnet report A Micro-credential Roadmap recommends that organisations be helped to

“review their HR practices to consider alignment with a Micro-Credential approach” (Nic Giolla et al., 2020, p.11). This will help employers to increase their recognition of the value of microcredentials. Indeed, a study found that human resource (HR) leaders already tend to prioritise skills over degrees, and companies’ awareness of microcredentials has been consistently increasing in the past few years (Gallagher, 2018). In 2020, the search engine company Google launched a range of professional training qualifications that it would treat as equal to a degree in its recruitment process for certain roles (OECD, 2021). It also offered funding to disadvantaged learners to access these upskilling opportunities. For example, 1,000 scholarships for Coursera online courses were offered by Google to Dublin jobseekers (Brown & Nic Giolla Mhichíl, 2021). McCoshan (2023) found that Irish employers were more interested in integrating microcredentials into training and CPD once they were provided as part of a quality-assured microcredentials system. However, employers have also reported that they don’t often come across microcredentials in job applications (Nic Giolla et al., 2020). Perhaps employees are just not including them in applications as they don’t see them as relevant.

Targeted Skills Development: In Ireland’s current labour market many employers face skills shortages (Hawley Woodall, 2024). On the other hand, 41% of adults over 20 years of age in 2022 do not have a qualification above Level 5 on the NFQ (SOLAS, 2022). Many Irish workers need the opportunity that microcredentials present to upskill, reskill and make their skills more visible, particularly in light of the rapidly changing nature of work (Hawley Woodall, 2024). Employers also recognise that microcredentials can offer a flexible efficient route for the achievement of highly valued skills, thus meeting evolving labour market development needs in critical sectors.

Other insights from employers focus on the ability of microcredentials to foster employee engagement in CPD, solve widening skills

gaps, increase employee retention, leverage workforce capabilities and improve company competitiveness (McCoshan, 2023).

While there is growing research on employer perspectives further insights are required to better understand how to enhance the value and impact of microcredentials and to plan for improved partnership models between all stakeholders (Brown & Nic Giolla Mhichíl, 2021).

3.3.4 National Microcredential Survey: Employer and Employee perceptions

The National Microcredential Survey was conducted in 2020, by a number of Skillnet partners, to explore employers' and employees' opinions on the potential of microcredentials in supporting CPD and lifelong learning. Data collection involved 61 employers and 160 employees across various industries in Ireland. The key themes addressed by the survey were Familiarity and understanding; Levels of interest; Current CPD practices; Perceived benefits; and Factors influencing adoption. Nic Giolla *et al.* (2020) highlight the following insights from employers and employees:

Key insights from employers:

- ▶ Employers have rarely encountered microcredentials on employment applications.
- ▶ Many organisations are seeking new forms of certification and approaches to CPD, even in the absence of existing systems.
- ▶ Employers prioritise how microcredentials can act as recognition of skills development and foster a culture of CPD over quantifying skills or enhancing competitiveness.
- ▶ There is significant interest among employers in learning more about microcredentials and potentially utilising them in the future. However, they require microcredentials to be flexible, customisable and cost-effective.

Key insights from employees:

- ▶ Time constraints are a major concern for busy professionals; employers must ensure

that pursuing microcredentials does not interfere with other commitments.

- ▶ Employees highlighted the importance of improving job-relevant skills, staying current with sector developments, and achieving internal promotions as their top motivations for engaging with microcredentials and CPD.
- ▶ Employees were generally indifferent about whether a microcredential led to a larger qualification.

3.3.5 Strategic partnerships

Strategic partnerships between educational institutions and industries are crucial for enabling companies to develop talent pipelines that help to maintain competitiveness and sustain growth. Such collaborations support companies to identify the core skills and competencies required to deliver on their business strategy and build a robust talent development strategy and plan. Ireland has many examples of such partnerships:

- ▶ Ireland has an advanced skills policy ecosystem, driven out under the broad framework of the National Skills Strategy. The primary skills architecture includes the National Skills Council and a network of nine Regional Skills Fora (RSF), which were established in 2016. The RSF foster opportunities for employers and the education and training teams to work together to meet the emerging skills needs of regions across Ireland. Research by the RSF (2023) highlights areas where micro-credentials would be beneficial.
- ▶ Technological University Dublin partnered with Skillnet Ireland and IDA Ireland to deliver a microcredential in Strategic Talent Development that aims to support IDA clients in achieving their strategic goals (TU Dublin, 2024).
- ▶ University of Limerick teamed up with Skillnet Ireland to offer an enterprise-led microcredential in climate action (UL,

2022). This microcredential aimed to enable participants to develop tailored sustainability charters and action plans for their organisation across the areas of energy, sustainability and waste, and circularity, while also achieving recognised third-level certification on the National Framework of Qualifications. These types of partnerships are targeted at the needs of industry and offer workers an opportunity to upskill at a more flexible pace. Formal partnerships also demonstrate the growing importance of accreditation as a mechanism to validate the quality of the learning experience evidenced by microcredential achievement.

- ▶ Ireland's MicroCreds (2024b) project offers another example of the important role enterprise engagement plays in the strategic development of microcredential offerings. Its enterprise engagement strategy outlines priority areas and associated activation mechanisms that education providers can utilise to facilitate meaningful and ongoing collaboration with enterprises of all sizes, for the benefit of all stakeholders.
- ▶ The FET Micro Qualifications (SOLAS, 2024a) strategic partnership develops learning content in conjunction with ETBs, companies, enterprise bodies and the RSF. This is tailored to match industry-needs and available in bite-sized chunks to aid accessibility.

Microcredentials provide flexible, cost- and time-efficient upskilling and reskilling mechanisms that are aligned with the objectives of these strategic partnerships. Indeed, from its work to date, the MicroCreds project has identified four key priorities for enterprise engagement:

1. Stimulate awareness of microcredentials;
2. Position microcredentials in the upskilling ecosystem;
3. Advocate for and advance enterprise–university collaboration;
4. Engage proactively to support priority skills needs.

By leveraging strategic partnerships, industries and educational institutions can develop quality-assured microcredentials that will meet the needs of enterprises and the workforce of the future.

3.4 What key factors are most likely to positively or negatively influence the implementation, impact and long-term sustainability of microcredentials?

3.4.1 Influential factors

The adoption and sustainability of microcredentials may be impacted by a variety of important factors. Addressing these factors will ensure that microcredentials are effectively integrated into educational and enterprise systems, and remain responsive to learner and employer needs.

Funding Models: The availability of permanent funding subsidies can make microcredentials more attractive to many stakeholders and accessible to a wider audience, improving accessibility for marginalised and disadvantaged learner cohorts. Employer-funding will increase recognition in the workforce of the value of microcredentials. The pricing of microcredentials will also have an impact on how well they are adopted and indeed on their long-term sustainability.

Regulatory Frameworks: Accreditation and quality assurance are important issues that will impact the long-term sustainability of microcredentials (Pirkkalainen et al., 2023). Ensuring high standards that build trust among learners and employers reinforces the value of microcredentials. Portability and stackability will increase recognition and the integration of microcredentials into the education system. In regulated professions, microcredentials provided will need to achieve professional accreditation to secure their status as valid CPD routes.

Academic Recognition: While traditional qualifications pathways are well recognised by education stakeholders, microcredentials still have a long way to go to permeate into training

and development frameworks in workforce systems (Nic Giolla et al., 2020). There are also challenges to integrating microcredentials so that they can stack towards larger awards. Stacking is not well defined, and many education institutions are still exploring how this will happen in practice (McCoshan, 2023). Inter-institutional recognition of microcredentials is not automatic and it can take significant resources to interrogate their relevance to existing programmes of study. Their inclusion in national frameworks of qualifications will offer reassurance on the achievement of appropriate standards and quality levels for all stakeholders.

Market Demand: The market demand for microcredentials needs careful consideration (Brown & Nic Giolla Mhichíl, 2021). Timely skills need analyses with industry partners will play a critical role in determining skills gaps and future skills needs. Aligning provision with labour market needs will help microcredentials to stay relevant to the emerging job market.

Technological Infrastructure: The technological infrastructures used to deliver microcredentials and to support learners to engage in learning must be fit for purpose. Many educators now use Virtual Learning Environments (VLEs) such as Moodle, Canvas or Blackboard to support the teaching of traditional qualifications. Microcredentials can also benefit from these technological advances. Learners need to have access to reliable internet and suitable devices to participate in online learning so this is also an important consideration.

Consideration of the factors outlined above can ensure that important issues for all stakeholders are catered to.

3.4.2 Positive and negative influences

The key factors identified may have both positive and negative impacts on the microcredential landscape, for each of the following.

Funding Models: The provision of funding for microcredential design and delivery has

a positive impact on their adoption and sustainability. Irish Government funding from the Micro-Credential Course Learner Subsidy (for 2024-25) offers subsidies of 50–80% on pre-approved third-level microcredentials making them more accessible to a wider range of learners. Over 14,000 places across >650 courses will be heavily subsidised under this provision. This funding will be instrumental in attaining Irish targets in lifelong learning and reaching the European Pillar of Social Rights Action Plan ambition to have at least 60% of all adults participating in training every year. In Ireland, employer sponsorship alongside the subsidy can enable learners to be fully sponsored.

Microcredentials without funding have a negative impact – attracting only those who can pay, therefore widening the gap for marginalised groups (OECD, 2021). When the sustainability of microcredentials becomes dependent on external funding, their viability may be at risk.

Regulatory Frameworks: Good accreditation and quality assurance positively impact on the acceptance and sustainability of microcredentials. Clear accreditation standards assure stakeholders of the quality and credibility of microcredentials. Mapping Irish microcredentials to the NFQ gives confidence to learners and employers. Ireland's further education and training sector (FET) has been heavily reliant on small-volume microcredentials (or "components") for many years. These are included in Ireland's NFQ and classed as minor awards – each has expected learning outcomes, FET credit and an NFQ level (QQI, 2024a). Clear mapping to the NFQ supports credit transfer policies. FET microcredentials can be aggregated to earn 'compound' awards (included in the NFQ) which may be classed as major, special purpose or supplemental.

Overregulation (of accreditation) can have a negative impact, impeding innovation and agility.

Academic Recognition: Institutional support for the integration of microcredentials into

traditional qualifications positively impacts on their acceptance across the education and training ecosystem. Enabling microcredentials to count towards major qualifications increases their value and appeal. For example, several of the microcredentials offered by the University of Galway also sit on major award pathways. Learners who complete those microcredentials get full recognition in the form of exemptions if they progress to the larger award pathway. The provision of microcredentials by established education providers raises their profile and helps to reassure learners and employers that they have been created in line with accepted quality standards. The Irish MicroCreds project is a good example of this.

Lack of microcredential-recognition or clunky recognition processes have a negative impact, undermining their value (European Centre for the Development of Vocational Training., 2022a).

Market Demand: Microcredentials that meet the varying needs of learners and employers, and that are aligned with market trends, will be in demand and have a positive impact. If proper market research is not undertaken, this negatively impacts by compromising uptake.

Technological Infrastructure: Secure, robust technology and ICT infrastructures positively impacts on the provision of microcredentials and enhances their adoption. High-quality virtual learning platforms can greatly enhance the learning experience. Many Irish education providers have invested heavily in procuring state-of-the-art online learning systems such as Canvas, Moodle and Blackboard to support the design, development and delivery of their courses and microcredentials can benefit from this investment too. Improved access to ICT resources will ensure equitable access students regardless of geographical location. In Ireland, the rollout of a fourth generation (4G) and fifth generation (5G) network is greatly improving internet access.

The use of high-technology systems to deliver microcredentials can have a negative impact - excluding some learners (and particularly those with poor digital skills or limited internet access).

3.4.3 Strategic implementation planning

To drive the implementation of microcredentials, it will be vital to leverage the positive influences of the factors outlined above and to mitigate the negative ones to ensure the long-term viability and success of microcredential programmes.

Funding Models: Lobbying for government funding of microcredentials e.g. continuation of the HEA Learner Subsidy scheme (currently planned to finish after 2024-25) will help secure a stable financial model. Implementing affordable pricing frameworks will make microcredentials and FET micro-qualifications accessible to disadvantaged learners, for example, the Irish Springboard+ programme offers significant subsidies to unemployed, employed and returning learners.

Regulatory Frameworks: Working with stakeholders to develop clear and transparent accreditation standards for microcredentials will increase trust. Expanding RPL policies to incorporate microcredential learning will broaden accessibility. Encouraging flexibility to incorporate innovation in the microcredential landscape while maintaining consistency and reliability in quality standards will improve confidence.

Academic Recognition: Encouraging academic institutions to integrate microcredentials into their traditional programme provision will help enable learners to stack them towards minor and major awards. Pan-European alliances of HEIs that are currently adopting and piloting microcredentials offering them as core components of awards (Pirkkalainen et al., 2023). Building awareness of the value of microcredentials in enhancing student employability and meeting industry needs will also encourage uptake and ease distrust. Increasing support for the implementation of recognition of prior learning practices improves access for microcredential learners.

Market Demand: Collaborating with industry partners and RSF will ensure microcredentials and FET micro-qualifications align with current and emerging skills needs and stay responsive to labour market needs.

Technological Infrastructure: Investing in robust and user-friendly learning platforms will ensure good learning experiences. Lobbying for the provision of good technology infrastructure in remote areas will improve access. Implementing funding schemes can increase access to digital devices for disadvantaged learners. Many Irish universities offer laptop loan schemes to learners who are socio-economically disadvantaged.

3.4.4 Future Outlook

Based on current trends and emerging factors the following are potential future developments related to the microcredential landscape:

- ▶ There is likely to be increased integration of microcredentials with traditional education programmes, allowing students to select them as electives.
- ▶ Improvements in recognition and credit transfer should facilitate learners to move more seamlessly between education providers.
- ▶ Industry–education partnerships are likely to increase, enhancing the agile-delivery of sector-specific microcredentials.
- ▶ The power of artificial intelligence and advances in technological developments will impact how microcredentials are designed, developed and delivered.
- ▶ Increased recognition of microcredentials across borders is probable as they become more established and are mapped to international and national qualification frameworks.
- ▶ Microcredentials that address transversal skills are expected to grow.
- ▶ Ongoing promotion should increase employers' acceptance of microcredentials as valid upskilling/reskilling routes. This should result in increased demand from learners.
- ▶ The development of a collaborative international and national strategy is needed

to overcome policy- and technology-related barriers that education providers cannot overcome on their own (Pirkkalainen et al., 2023) and the future will probably see advances in this regard.

3.5 Summary and recommendations

Based on current trends and emerging factors regarding microcredentials, the following recommendations are proposed to improve microcredential implementation and effectiveness:

- ▶ Microcredential developers should increase the integration of microcredentials with traditional education programmes (facilitating students taking them as electives).
- ▶ Improve recognition and credit transfer facilities (aiding learners to move seamlessly between education providers and cross-borders).
- ▶ Increase industry–educator collaboration to rapidly deliver agile, focussed microcredentials.
- ▶ Utilise AI and technological developments to enhance microcredentials design and delivery.
- ▶ Implement policies to recognise microcredentials across borders and map them to international and national qualification frameworks.
- ▶ Increase the availability of (in-demand) microcredentials which address transversal skills.
- ▶ Promote and raise awareness of microcredentials as valid upskilling/reskilling routes, thus increasing demand from learners.
- ▶ Develop international and national strategies to handle policy- and technology-related barriers that education providers cannot overcome on their own (Pirkkalainen et al., 2023).



CHAPTER 4

MICROCREDENTIAL POLICY DEVELOPMENT

Ireland has a robust policy and accreditation framework governed by the Quality and Qualifications Ireland (QQI) and micro-credentials are subjected to the same rigorous testing before being deemed trustworthy, credible and of a sufficient quality to be released.

4.1 How is quality assurance managed for microcredentials in Ireland?

The QQI “is the state agency responsible for promoting the quality, integrity and reputation of Ireland’s further and higher education system” (QQI, 2024d). The quality focus is on teaching, assessment, qualification standards, programme design and the certification of learners.

The Qualifications Education and Training Act ((1999)) set up the National Qualifications Authority of Ireland (NQAI), which in turn established the National Framework of Qualifications (NFQ). This authority (2003, p7) defines the NFQ to be:

The single, nationally and internationally accepted entity, through which all learning achievements may be measured and related to each other in a coherent way and which defines the relationship between all education and training awards.

The QQI replaced the NQAI in 2012 and it maintains the NFQ which ensures that Irish qualifications are standardised and recognised, facilitating mobility for learners. QQI (2021b) is responsible for promoting, developing, maintaining and reviewing the NFQ. The Irish Register of Qualifications (under QQI) lists the qualifications included in the NFQ and the programmes leading to them. QQI sets awards standards for itself and DABs have a similar set of robust criteria authorised to issue awards.

4.1.1 National Framework of Qualifications

The NFQ categorises qualifications from Level 1 (literacy qualifications) to Level 10 (doctoral degrees) – see figure 2. The NFQ shows pathways to move from one level to the next. It helps compare foreign qualifications with their Irish equivalents and facilitates the recognition of Irish qualifications abroad. NFQ levels indicate a person’s knowledge, skills and competence.

In higher education, microcredentials are defined as learning earning 1-30 ECTS, typically aligning with NFQ Levels 6 to 10, and targeted to specific learner profiles. Non-award microcredentials are mapped against NFQ levels with associated ECTS values. When stacked towards a full award, the programme follows the same quality regulation as a traditional course.

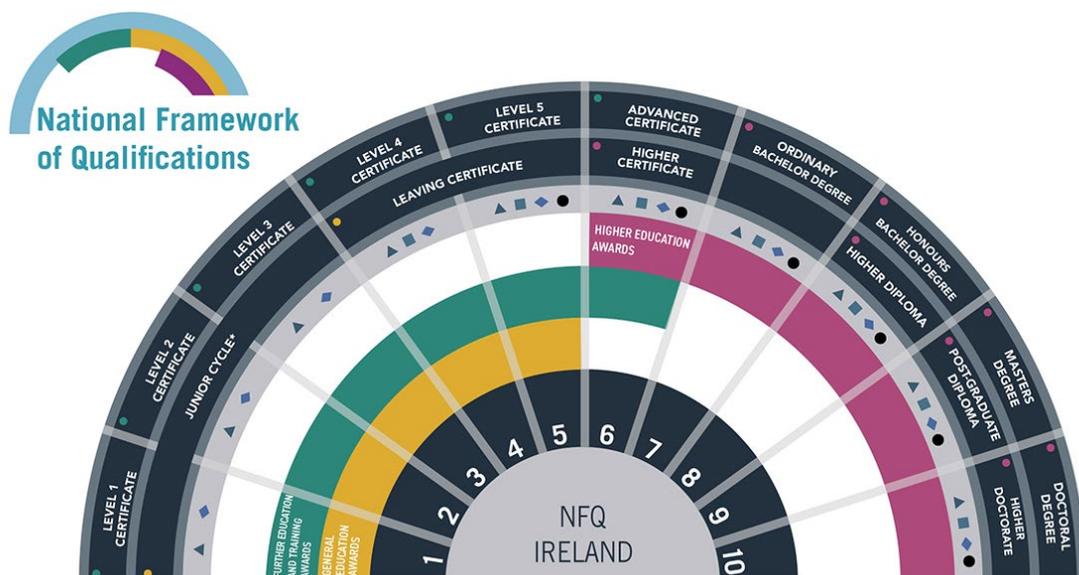


Figure 2: National Framework of Qualifications (QQI, 2024c)

When stacked towards a full award, the special-purpose award or minor award category on the NFQ is best suited to the volume of learning and current market-need focus of microcredentials. The narrowly defined areas covered in these awards make them highly attractive to industry; they are relevant to specific roles and they signal a specific competence to employers. Special-purpose awards can be found in areas such as Digital Marketing, Project Management, Leadership Skills, Training and Development and many others.

4.1.2 Quality assurance within higher education institutions

The universities, technological universities, institutes of technology and the Royal College of Surgeons in Ireland (RCSI – a specialised college of medicine) are designated awarding bodies (DAB). This confers them with degree-awarding powers. DABs respect the internal and external quality assurance arrangements of an institution. A joint sectoral protocol (QQI, 2022) between DABs and QQI, facilitates inclusion of awards made by the DABs within the NFQ. This ensures alignment with quality assurance standards and legal requirements.

DABs have been central to the success of the NFQ and its ability to assist learners in navigating the Irish education landscape. This well-established framework provides a coherent structure for assessing and recognising non-award microcredentials leading to the award of ECTS only. It also provides a credible and reliable structure to support the stacking of microcredentials which lead to a designated award for learners.

4.1.3 Quality assurance of Microcredentials

DABs maintain the quality standards of microcredentials as per their internal quality assurance guidelines. The MICROBOL project (Lantero et al., 2021) recommends that programme-level evaluation by external quality assurance bodies be reviewed and adapted for smaller volumes of learning. Separately and in light of the growing demand for shorter courses, the QQI adapted its process for full

programmes to accommodate validation of special-purpose and minor programme awards to reflect microcredentials. **Note:** a selection of microcredentials is being offered by the further education sector through the Micro-quals project – see section 4.2.2 for further details on the accreditation route for same.

Approval of microcredentials within the DABs follows the existing robust internal quality assurance procedures for new programme approval which all new programmes undergo in order to attain approval at university level. To date, the development of microcredentials has followed two paths:

- ▶ Creation of **new microcredentials** for targeted skills and learner groups which can be taken initially as credit and then stacked by learners at a later date for the attainment of a special-purpose award;
- ▶ Microcredentials which are offered as **single modules from a larger, further award** (e.g. Certificate, Diploma, Master's). Learners who complete individual modules may be eligible to apply for a credit exemption from the further award should they wish to progress to further studies. (This will depend on the provider's policy regarding RPL).

Best practice in relation to programme-level approval (and by default, microcredential approval) is overseen by the relevant University Curriculum Committee or Curriculum Board of Studies approvals process. The following quality assurance criteria apply:

Market analysis: Ascertain the potential interest and market for the microcredential identifying the level of student demand, industrial and external requirements which have led to the development of the microcredential and/or any changes in the subject area which have led to the creation of new content or the development of a new microcredential to meet the education need. (When a microcredential is offered from an established larger award, the grandfather principle may apply with a lighter-touch approach to market analysis being applied).

Microcredential documentation: This includes the title, ECTS weighting, course descriptor, learning outcomes, workload requirement for each teaching component, assessment types and percentage allocation, associated reading materials, award-type (where relevant), whether associated with a larger award. If a microcredential is being offered from a pre-existing award, much of this documentation is already in place and may be replicated to offer a microcredential option.

Programme documentation: Where microcredentials are leading to a stacked award, additional documentation is required to provide an overarching framework for the award, including: programme title, mode of delivery, award class/type, NFQ level, programme aims, programme learning outcomes, graduate attributes, descriptions of modules and stacking mechanism, programme assessment and resources.

In addition to the above standardised approach to microcredential approval, other special features (ETF, 2023) should be considered when developing the quality assurance mechanism:

- ▶ **Content focus:** Specific skills and knowledge which may be dynamic in nature requiring an agile course approach process in order to keep pace with industry requirements.
- ▶ **Collaboration:** Development process may include industry stakeholders in a co-creation model. It may require industry to have a significant input to the teaching components of the microcredential through a co-delivery model. Approval processes for third-party involvement and approval of adjunct faculty may be required as part of the approval process.
- ▶ **Innovation in teaching and learning:** Microcredentials must match learner needs and may require more flexible modes of delivery and assessment including work-based learning practices.
- ▶ **Flexible learning pathways:** Microcredentials are designed to allow students to learn at their own pace. They should also enable learners to design their own learning journey by choosing microcredentials to meet their career goals, interests and specific areas of expertise. This requires a greater degree of flexibility and an open-minded approach to programme approval processes.
- ▶ **Lifelong learning strategy:** Consideration of where microcredentials sit in relation to the overall university strategy i.e. the FET's relationship with regional stakeholders and non-traditional students should be considered at policy level in order to set a context for the further development of microcredentials and flexible programmes in general.

4.2 What progress has been made toward institutional and/or national standards in Ireland?

Projects are underway among the education providers in Ireland to develop microcredentials for skills development, workforce development and expansion of lifelong learning opportunities.

The European standards relating to microcredentials are discussed in this section.

4.2.1 IUA: A Multi-Campus Approach to Microcredential Standards

The University of Galway and seven other universities form the Irish Universities Association (IUA). Seven of the founding IUA members have been collaborating since 2021 on a joint project to lead the establishment of a national framework for quality-assured microcredentials in Ireland. The MicroCreds.ie project is government-funded under the Human Capital Initiative (HCI) strand, giving 50-80% funding to eligible students on certain courses, for 2024-25. It is a five-year (2020-2025), €12.3 million, multi-campus microcredentials project led by the IUA, funded by the National Training Fund. In terms of a standard, the project develops an agile suite of short, flexible, quality-

assured university microcredentials, aligned with the National Framework of Qualifications (NFQ). It aims to be the first European country to establish a coherent national framework for quality-assured and accredited microcredentials (Walsh, 2021).

The number of European Credit Transfer System (ECTS) credits per microcredential is from 1 to 30; typically, course duration is 4–12 weeks. Teams collaborate to develop, pilot and evaluate the building blocks required to transform lifelong learning through microcredentials (HEA, 2024a).

Each participating University has developed microcredentials, tailored to the needs of enterprises and learners, providing upskilling and reskilling opportunities to those in employment and those seeking to enhance their employability, thereby responding to the needs of enterprises, the public service and community sectors. The project has designed a universal vision for multi-campus microcredentials development across seven universities, with some key characteristics/ principles. That process has since been adapted by other higher education institutions (e.g. the technological universities), who offer microcredentials as part of their HCI-funded projects. (See Appendix 2 for a full list of public and private organisations currently providing microcredentials).

Using the earlier definition of microcredentials (see Chapter 1), the following conventions can be used in the implementation of microcredentials at an institutional level:

- ▶ Microcredentials are **credit-bearing** and are typically standalone credentials with some stacking towards a larger credential or award;
 - ▶ Microcredentials will be credit-bearing within a Sliding Scale of **1–30 ECTS**, with institutions free to decide the range which best suits their institution;
 - ▶ Microcredentials will relate to **Levels 6–9** on the National Framework of Qualifications.
- ▶ Adherence to a **framework of core values** for microcredential development at university level, including leadership in lifelong learning; tackling of economic and societal challenges; dynamic enterprise collaboration; excellence and innovation; courses that are flexible, agile, learner-focused and inclusive for all learners.

The project encourages sharing good practice in relation to microcredential design and delivery and innovation in online teaching and learning. Participating universities have been working on high-level principles and good practice approaches on recognition and stackability (i.e. combining microcredentials into coherent awards). In the IUA pilot project, the team has agreed not to define microcredentials as awards (i.e. non-award microcredentials), unless stacked with other microcredentials (towards making a full award). They can be stacked for the attainment of an award or used through a process of RPL to gain exemptions from part of a programme or advanced entry to attain a qualification on the NFQ.

This decision was made in 2022 and revisited by the project team in 2024.

The following definitions were agreed as part of this project group:

- ▶ **Non-Award Micro-Credentials leading to the awarding of ECTS only**
On successful completion of a microcredential, the learner will receive credits as per the European Credit and Transfer System. These credits are recognised by the awarding institution as credits aligned to learning completed at further education/undergraduate/postgraduate level.
- ▶ **Micro-Credentials Leading to an NFQ Award**
On successful completion of a micro-credential, the learner will be awarded a (name of category of award i.e. special purpose, supplementary, minor) at level [insert level] on the Irish NFQ.

4.2.2 Further Education and Training: Micro-Qualifications Standards

SOLAS, established in 2013, is the agency of the Department of Further and Higher Education, Research, Innovation and Science (DFHERIS). Its mission is to support the development of Further Education and Training (FET) programmes which are innovative, flexible and responsive to the needs of learners and employers. SOLAS manages FET programmes in Ireland and specifically programmes which enable learners to develop labour market skills which allow them to succeed in society. Under its project 'Skills to Advance', FET Micro-Qualifications have been introduced in the priority areas of green skills, digital, robotics, aquaculture, business innovation and market development (SOLAS, 2024b). These are short, stackable, accredited qualifications. These micro-qualifications are provided regionally in Ireland by the Education and Training Board network and are offered in partnership with enterprise agencies, sectoral agencies and companies.

FET micro-qualifications are approved by QQI and included within the NFQ (at Levels 5 and 6 on the NFQ) The guiding principles of value, agility and market-relevance have led to the development of a range of micro-qualifications within each thematic area. These micro-qualifications meet a local skills need, are delivered flexibly to suit the learners and industries and are subsidised and available at little or no cost to individuals and their employer.

SOLAS adopted a strategic approach to the development of the micro-qualifications focusing specifically on priority/critical skills areas identified through a robust collaborative model for engagement. The agility of bite-sized courses of learning consisting of 50 hours of student effort and delivered in-person or online ensured that the offering met with industry's immediate needs.

4.2.3 Microcredentials Standards and the NFQ in Europe

The MICROBOL project aimed to develop a common framework for microcredentials in the European Higher Education Area (EHEA) and the EU stated that inclusion of microcredentials in a country's NFQ should be optional; however, the report makes the following recommendation clear for participating countries:

Microcredentials should be included in the NQF, whenever possible. The decision on including microcredentials within national frameworks is to be made at national level. If the national decision is to include microcredentials in the NQF, the criteria for inclusion should be decided. These criteria might include for example the size, naming, value/relevance and quality assurance of the microcredentials.

The current national framework structure in Ireland provides three types of non-major awards:

- ▶ **Minor award-types:** for partial completion of the outcomes of a major award.
- ▶ **Special-purpose award-types:** for relatively narrow or purpose-specific requirements.
- ▶ **Supplemental award-types:** for learning that is additional to a major award.

Minor and supplemental awards normally have a link to a major award, while the special-purpose award may share outcomes with a major award, but equally can be viewed as a standalone award. QQI's process (2024b) for approving microcredentials is in line with that of the European definition. They meet the criteria stated for minor, special-purpose or supplemental awards.

Considering the current availability of microcredentials at national level, it is useful to review statistics from the Irish Register of Qualification (IRQ), compiled by QQI. The IRQ is a dynamic database of programmes and education providers providing quality-assured courses leading to a QQI Award. As of October

2023, there were 1,542 microcredentials listed on the IRQ portal (with 92% from DABs and remainder directly approved by QQI). 56% were classified as special-purpose awards and 43% as minor awards. Among the most popular subject areas for microcredentials were Business, Administration, Law, Health and Welfare.

The recent QQI analysis of awards report (2023) highlights a notable increase in the number of special-purpose awards made in the FET sector, up 30% from 2021 and 44% from 2022. An increase is seen in HE where certification of special-purpose awards in 2023 increased by 4% from 2022.

4.2.4 Opportunities for Integration

The recognition and accreditation of microcredentials in Ireland as outlined in section 4.1 has followed the normal quality assurance processes of DABs or a shorter, more customised approach for approval through QQI. Aligning the approval of microcredentials through existing processes has assisted in developing recognition within the traditional higher education system. It also alleviates any potential scepticism about the quality and rigour of their academic worth.

Microcredentials should be embedded into the lifelong learning strategic plans of the institution to ensure their visibility and presence. Planning should consider the alignment of microcredential development with research expertise and industry requirements. Building a complementary microcredential portfolio which aligns with programme offerings ensures a mapping of curriculum and addresses concerns regarding staff workload and curriculum planning.

MICROBOL Micro-credentials linked to the Bologna Key Commitments, recommends a focus on Europe-wide portability, recognition and integration of microcredentials (Lantero et al., 2021).

4.2.5 Barriers to Integration

Awareness: Microcredentials are relatively new in Irish education and awareness is still a challenge. Despite promotional campaigns, many learners are unaware of them. Educational institutions need to promote microcredentials and collaborate with enterprises and communities to attract learners. They must also ensure accessibility across online and offline platforms, to attract more learners. Currently, the market has limited data on how microcredentials impact on employability and skills development, but data collection and collaboration are ongoing.

Stackability: the ability to stack microcredentials into larger qualifications is critical for learners. While industry focuses on short-term needs, many adult learners seek long-term educational programmes for their career pathways. This requires flexibility in the education system, allowing learners to choose microcredentials that align with their career goals, and allowing them to customise their learning paths. Guidance services will be needed to help learners select the right pathway for them. Clear educational pathways are essential for the viability of microcredentials in education. Curriculum planning should consider both the available of microcredentials and the education pathways they support, for example data science pathways that include programming, data analytics and machine learning microcredentials.

Transferability is a further potential barrier to integration microcredentials, referring to their acceptance across educational institutions and industry, national and internationally. A common definition of a microcredential with an associated ECTS weighting, NQF/NFQ level and certification of learning has assisted transferability. Articulation agreements may still be required for credit transfers between microcredentials and formal degrees. Under an institution's RPL policy, agreements can facilitate credit transfer for direct entry or module exemptions.

Systems integration and appropriate IT infrastructure remain challenging for microcredentials. The traditional education system is set up to accommodate full awards with students taking courses over a defined period of time. Learners who undertake studies in shorter course formats can be disruptive to traditional systems. A higher degree of flexibility and agility is required at all stages in the student lifecycle, from application to selection of curriculum, examination processes, credit accumulation over an extended period and graduation. Management information systems need to be built around modules of learning rather than full programmes, and they need to facilitate credit transfer and an extended period to certification. University policy and procedures will also need to be adjusted to reflect the modular nature of the microcredential curriculum.

4.2.6 Finance and resourcing

From a learner's perspective, the affordability of microcredentials is critical. Finance is one of the main barriers to education, and without support from an employer or a government subsidy, it can be challenging for learners to participate. As previously referenced, in Ireland the HEA has launched a learner fee subsidy providing 50–80% funding for eligible learners. Skillnet Ireland and their Networks (Regional and Sectoral) have also been instrumental in supporting its member companies and can offer 30–50% to member companies to support the upskilling of employees. Such subsidies have greatly accelerated the take-up of microcredentials in Ireland.

Within the provider institution, the business requirements necessary to sustain microcredentials must be identified. Increased student numbers are required to maintain fee income levels, with what is perceived to be a greater input of effort. In this context, the rationale for including microcredentials as part of the institution's lifelong learning portfolio, and the question of whether they are offered as standalone microcredentials with the option for the learner of progressing to a larger award or as awards in their own right, should be explored as part of the institutional strategy.

4.3 What practical steps should be taken in developing national and regional microcredential policy frameworks?

4.3.1 Stakeholder engagement and consultation

Section 1.3 outlines the key stakeholders for the development of microcredentials and their specific interest. Learners, Universities, employers and government agencies are the key stakeholders in the area of policy framework development. Higher education institutes will have a lead development role.

The form of engagement should include the following practical steps:

- ▶ **Working groups:** comprising representatives from the various institutions. These working groups can take a specific focus within the framework, for example a focus on quality assurance or credit transfer or the definition of a microcredential.
- ▶ **Information sharing among international stakeholders:** This involves sharing information on best practices, research findings, cases studies and benchmarking against other countries to see what has worked best for microcredential implementation and development internationally.
- ▶ **Collaboration:** HEIs could collaborate on research projects and pilot programmes to inform policy decisions. The development of a common template for microcredentials, as was developed by the Irish IUA project, is an example of good practice. Collaborative events across institutions to raise awareness of microcredentials within industry could also be beneficial.
- ▶ **Advocacy:** HEIs can advocate, with the relevant policymakers, for the benefits of microcredentials and their inclusion in national policy frameworks. This involves QQI and DFHERIS in the Irish setting, the latter having responsibility for policy, funding and governance of the Higher and Further

Education and research sectors and for oversight of the work of the state agencies and public institutions operating in those areas.

4.3.2 Needs assessment and benchmarking

With a clear focus on the parameters of the policy development process, and engagement with stakeholders as above, this process should include:

1. Gathering existing data relating to microcredentials nationally from public and private providers. This can be in the form of desk research, establishing contact with the key providers and seeking feedback on their experiences of working with microcredentials to date. Identifying the opportunities and barriers the providers experience and gathering relevant information;
2. Identifying what other secondary data may be required from the data currently available. It is important to gather data from a large sample that is in the general domain, if available. This information may be available internationally and contacting international networks such as EUCEN and EDEN is useful in order to reach a wider microcredential user group.
3. Determining if additional primary data is required and the most efficient data-collection method available. This information may be gathered from a different data-set; for example, from policymakers at government level to ascertain their attitudes to microcredentials. If collecting primary data, a clear process and methodology should be adopted to facilitate analysis of the responses received e.g. if conducting interviews then a standard set of interview questions should be developed across selected groups.

4. Benchmarking: the benchmarking process involves identifying organisations or countries deemed best in class in relation to microcredential development. It is important to benchmark with entities that are similar to one's own set-up. Understanding the differences in how each organisation operates is important when considering the benchmarking results. The metrics for the policy development process are outlined below and are a useful consideration when considering the establishment of a policy framework.

4.3.3 Policy drafting criteria

The policy drafting and public consultation process should include regular stakeholder consultation and feedback sessions to help align the development of a microcredentials policy framework and should incorporate the following criteria:

Quality assurance: implementing robust quality assurance processes (as outlined in 4.1) for internal and external validation ensures that microcredentials have validity in the market, builds trust in the offering and encourages engagement by employers and learners. Note: Although there is a need to have robust quality assurance processes in place, programme-level evaluation processes may not be required for standalone microcredentials owing to their small volumes of learning. A streamlined approach may be appropriate in such a case (MICROBOL Recommendations 11&12 in Lantero, Finocchietti and Petrucci (2021)).

Transparency: a commonly agreed definition of a microcredential is required at country level. Describing microcredentials in a standardised format using common criteria of reference such as ECTS, description of learning outcomes, NFQ and European Qualifications Framework (EQF) level, assessment methods and learner workload assists their integration into national frameworks and also their transferability. It also provides the prospective learner with a common set of terminology with which to

navigate the various microcredentials that are available (ETF, 2023).

Portability/Transferability: microcredentials should be issued as verifiable digital credential to ensure their authenticity and transferability in the educational system. Integrating the institution's microcredentials into a recognised digital credentialing platform (e.g. Europass, the European system) has many advantages for learners and employers. The learner can build and manage their learning portfolio, while the employer can easily verify credentials (ETF, 2023).

In parallel with the technical output of microcredentials, HE and FET providers should explore the possibility of memoranda of understanding with other higher education providers at regional, national and European/international levels to recognise microcredentials from other institutions for the purposes of credit accumulation, the development of progression frameworks for learners and the possibility of joint awards. This will require process development between education providers and will provide attractive learning pathways/progression opportunities for students.

Relevance: Microcredentials must be designed to meet the needs of specific target groups (Lantero et al., 2021). In order to achieve this, industry and community stakeholders must be involved in the early stages of design and development. Learners should also be involved at the design phase to ensure that their learning needs are met as part of the planning phase. Feedback from alumni is also recommended for continuous improvement (MICROBOL Recommendation 14 in Lantero, Finocchietti and Petrucci, 2021). Publishing data on the number of learners, subject areas of highest demand, industry and geographic trends embeds microcredentials into the educational landscape and signals that they are not just a recent trend in the market.

Recognition of Prior Learning: A well-developed RPL policy, such as the *Recognition*

of Prior Learning and Lifelong Learning in Higher Education Project (IUA, 2024b) form an important component of the progression pathways for learners. It provides for the recognition of prior awards and experiential learning and must be embedded in policy frameworks.

Development of databases of courses: course catalogues should be centralised and available to learners. This (a) provides information on the range of microcredentials available nationally, (b) highlights progression pathways within and across HEIs (c) complements other national databases of qualifications available such as the IRQ in Ireland, (d) provides a common set of criteria and language to facilitate awareness raising and understanding of microcredentials.

4.4 Summary and recommendations

Strong quality processes are already in place to manage microcredentials (in HEI and FET sector) and they are overseen by QQI. Progress has been made on institutional standards for integration in Ireland but there are some barriers to overcome, for example improved portability and transferability across institutions and borders. Strategic policy initiatives, coupled with robust industry partnerships and cultural shifts, will be key to unlocking the full potential of microcredentials in Ireland and progress has been made. The following recommendations are proposed to aid further policy development:

- ▶ Adhere to the QQI standards and NFQ levels when developing new microcredentials.
- ▶ Reduce and eliminate the current barriers to integration in order to move towards strong national and international standards for micro-credentials. These standards should facilitate systems integration and the portability and transferability of credits between Irish institutions and across European borders.
- ▶ Increase stakeholder consultation, needs assessment and benchmarking when revising microcredential policies.

METHODOLOGY



Note on Desk Research Methodology Used

Owing to the large amount of information available in Ireland and Europe on microcredentials, the research team's search strategy focused on contemporary sources including (a) customised Google search using the keywords listed below, (b) targeted websites such as the IUA, QQI (c) consultation with HEI professionals experienced in this area. Research keywords used in relation to microcredentials:

1. Stackability
2. Transferability/portability
3. Flexibility
4. QQI
5. Accreditation
6. National Framework of Qualifications
7. Accessibility
8. Funding
9. Policy/strategy/framework development
10. Recognition of prior learning

Summary of Findings and Recommendations

HEI Microcredentials and FET Micro-Qualifications are an exciting new development in education which stand to benefit a wide range of learners and employers in Ireland, as well as promoting economic growth. Micro-credentials are currently targeting areas where there are skills gaps and shortages. Their flexible, affordable nature mean that they improve access to education for demographics that have been marginalised in the past.

Ireland has a growing population and a responsive education system, in addition to an advanced tech industry. It has a robust accreditation framework governed by Quality and Qualifications Ireland, which oversees the National Framework of Qualifications. At a policy level, there is widespread support for the concept of microcredentials, assured by a

significant level of funding (though some of that funding is temporary). In many ways Ireland is an ideal testbed for a wide programme of microcredentials. There are some challenges but the benefits of microcredentials for workers, employers and the economy are significant. Strategic policy initiatives, strong industry-education partnerships and a broadening view of higher education will allow the potential of microcredentials in Ireland to be fulfilled.

Recommendations:

1. Increase industry-educator collaboration to deliver agile, skill-gap focussed microcredentials. Maintain an agile approach to microcredential development and revision, to accommodate the needs of all stakeholders while delivering knowledge to fill skills-gaps.
2. Increase delivery of formal and informal microcredentials from various public and private providers, in diverse topics with a variety of aims.
3. Offer diverse pathways into learning, for example through RPL.
4. Promote micro-credentials as an approach for lifelong learning.
5. Align key political, social and technological drivers with current educational and workforce trends.
6. Increase the integration of microcredentials with traditional education programmes (facilitating students taking them as electives with the option to build to a full award).
7. Use AI and technological developments to enhance microcredentials design and delivery.
8. Implement policies to standardise and recognise microcredentials across borders (e.g. using ETF) and to map credits across international and national qualification frameworks.

9. Implement policies to standardise stackability of micro-credentials, micro-qualifications, RPL exemptions etc.
10. Increase availability of (in-demand) microcredentials to address transversal skills.
11. Promote and raise awareness of microcredentials as valid upskilling/reskilling routes, thus increasing demand from learners and employers.
12. Develop international and national strategies to handle policy- and technology-related barriers that education providers cannot overcome single-handedly.
13. Deliver permanent funding mechanisms to support learners taking microcredentials, with a particular focus on marginalised groups and those returning to education.

Conceptualisation

As a **concept**, microcredentials have existed in Ireland since the establishment of the NFQ, albeit under different names. By way of context, in addition to a well-regarded national accreditation framework, Ireland has a strong tradition of valuing education and lifelong learning. With a high level of technological saturation, the labour market is a significant driver of microcredentials, as they provide an agile way to rapidly address needs in the technological, economic and social areas.

For a broad programme of microcredentials to be successful, it must **align with trends within education and the workforce**.

Trends within education include shorter course offerings and flexible delivery, as well as moves towards 'stackability' and portability across courses, institutions and borders. In the workforce there is an appetite for accredited short courses to fill specific skills gaps. Microcredentials by their nature align well with these trends.

It will be crucial to develop a **common understanding** among stakeholders of

microcredentials and their value and utility. To a large extent, all stakeholders – learners, HEIs, employers and government agencies – have similar priorities: accreditation, stackability, portability, and the opportunity to rapidly fill skills gaps. Extensive consultation and collaboration with all stakeholders will provide optimum results in the development and promotion of microcredentials.

Stakeholder views and concerns can be seen as a feedback loop with regard to design and implementation of microcredentials. Employers experience skills gaps, learners seek those skills to increase their employability, and HEIs respond with courses designed towards the precise need. Both learners and employers equate accreditation with quality. Government agencies are willing to fund quality-assured courses that meet workforce needs. Key criteria for learners are the ability to 'stack' qualifications and have them recognised across institutions and borders, meaning that cooperation on framework design is a priority at both national and international levels. One such existing scheme is the European Credit Transfer System (ECTS), which enables students to collect credits for learning achieved through higher education. For HEIs, a key concern is to find ways to integrate microcredentials into their existing traditional offerings. Government agencies prioritise microcredentials' cost-effectiveness in meeting workforce needs and promoting economic growth.

Providers

Universities, technological universities, the Further Education & Training sector and private colleges offer microcredentials or micro-qualifications (via their DAB status), with QQI overseeing accreditation through the NFQ. The formal education sector emphasises accreditation and career advancement, while in the non-formal education sector, accessibility and inclusivity are important. In the informal sector, these courses contribute to personal enrichment and networking.

(The MicroCreds project is a five-year, government-funded project led by the IUA.)

Implementation & Effectiveness

Success is most clearly seen in terms of how courses match skills gaps and the trust employers place in course offerings. **Socio-economically**, microcredentials meet many goals for increasing access and inclusivity e.g. short duration, low cost and flexibility. Other important features are bridging skills gaps, providing alternative learning pathways, and RPL for learning acquired through work experience or non-formal learning.

At **policy** level, programmes of quality assurance and funding aim to create widespread awareness of and support for microcredentials. Government funding makes microcredentials accessible to a wide range of learners, with the current Micro-Credential Course Learner Subsidy available for over 14,000 places across 650+ courses.

Ireland has an advanced skills policy ecosystem, under the National Skills Strategy framework. Although it is early days, many HEIs and FETs have already engaged with industry to develop successful microcredentials for particular skills gaps such as digitalisation and climate action.

One challenge is to improve awareness among Irish employers of the value of microcredentials and micro-qualifications and how they complement traditional qualifications. Initiatives such as the MicroCreds project and the recent announcement of major government investment to increase skills in key areas should raise awareness and improve acceptance.

Policy Framework Development

Key factors for the success of microcredentials include industry–education partnerships leading to more responsive delivery of sector-specific microcredentials; rigorous programmes of quality assurance; increased recognition across borders via international and national qualification frameworks; increased acceptance by employers as valid upskilling/reskilling routes, and international and national strategy development. The essential requirements for the acceptance and sustainability of

microcredentials may be summarised as quality assurance, relevance and funding, and initial policy work has been focused on these areas.

Conclusion

Ireland's responsive education system and supportive socio-economic, political and technological environment provides excellent conditions for the adoption of microcredentials and micro-qualifications. Work is needed to overcome challenges, such as a lack of knowledge among employers and learners, but the benefits of microcredentials for workers, employers and the economy are significant. Much groundwork has been laid. Continuing consultation and collaboration among all stakeholders will allow Ireland to realise the full benefit of this exciting innovation.

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Appendices

APPENDIX 1: OVERVIEW OF MICROCREDENTIALS AND USE OF RPL IN IRELAND

Example	Can be accessed through RPL	Can be obtained through RPL	Can be used in RPL process to access/obtain formal qualifications
1. Minor or special-purpose awards on the NFQ	Yes: QQI Principles and Operational Guidelines for RPL require providers to have policies and procedures for learner admission, progression and recognition, enabling the fair recognition of prior learning, including non-formal and informal learning.	N/A. These awards are on the NFQ (i.e. they are formal qualifications), and (many) can be combined to achieve full awards.	
2. FET micro-qualifications	Yes: in line with QQI Principles and Operational Guidelines for RPL.	Yes: in line with QQI Principles and Operational Guidelines for RPL. However, interviewees suggested that it is likely to be less time-consuming (for both learners and providers) to complete the training than to produce an RPL portfolio.	N/A. These awards are on the NFQ (i.e. they are formal qualifications). They can be stacked to achieve larger awards.
3. MicroCredits project	HEIs use RPL for access, including for microcredential (and other short) courses.	RPL is used in HE to support credit towards an award, exemptions from programme modules, and advanced entry. However, interviewees suggested that RPL is rarely practical for the award of microcredentials in the HE sector.	N/A. Some of these awards are on the NFQ, whereas others are not. It should be possible to use them towards a process of RPL in line with QQI Principles and Operational Guidelines. It may be possible to combine certain MicroCredits to achieve full awards.

APPENDIX 1: OVERVIEW OF MICROCREDENTIALS AND USE OF RPL IN IRELAND (CONTINUED)

Example	Can be accessed through RPL	Can be obtained through RPL	Can be used in RPL process to access/obtain formal qualifications
4. FITU digital badges and micro-credentials	Yes: suitability for the courses is determined through RPL.	Yes: assessment can be based on learning from the course or experiential learning from the workplace.	Yes: see above with regard to RPL in both FET and HE. Badges can be accepted in place of the qualification requirements for entry to FITU's Level 9 (master's) courses.
5. Non-formal learning, e.g. offered by employers, private training providers, sector bodies	N/A.		Yes: in line with QQI Principles and Operational Guidelines for RPL. However, providers indicated that most RPL evidence tends to derive from experiential (informal) learning, rather than non-formal learning.
6. Global Hospitality Badge	Yes: a learner's initial application is assessed against the relevant criteria (e.g. making sure the individual's experience is recent, i.e. from the last six months).	Yes: the badges are obtained through an evidence portfolio or a line manager's assessment of the individual's competencies.	Yes: see above with regard to RPL in both FET and HE.

APPENDIX 2: IRISH ACADEMIC INSTITUTIONS AND TRAINING ORGANISATIONS PROVIDING MICROCREDENTIALS

IUA Partner Universities	Technological Universities	Further Education & Training	Private Colleges
University of Galway	TU Dublin	16 Education & Training Boards (ETBs)	Range of private, independent colleges
University of Limerick	Munster TU		
University College Cork	TU Shannon		
University College Dublin	Atlantic TU		
Maynooth University	South-East TU		
Trinity College Dublin	Dundalk Institute of Technology		
Dublin City University (DCU)			

*Microcreds.ie Project

Microcreds.ie project

Microcredential Provision		
Participants in and drivers of MicroCreds.ie	Microcredential courses award 1 to 30 ECTS and provide awards at Levels 6 to 9 on the National Framework of Qualifications.	Micro-qualifications awarding QQI Levels 4–6. ETBs offer micro-credentials in digital skills and vocational training, tailored to local labour market needs. SOLAS provides targeted micro-credentials for upskilling and reskilling workers in various sectors.

Common Needs Across All Sectors

Digital Delivery: Online and blended learning options to cater to diverse learning needs and preferences.

Stackability: Microcredentials that can be stacked or combined to form larger qualifications or demonstrate comprehensive skillsets.

Lifelong Learning: Emphasis on lifelong learning, with microcredentials serving as tools for continuous professional and personal development.

Needs of Microcredential Users	
Sector	Characteristics
Formal Education Sector	<ul style="list-style-type: none"> ▶ Structured programmes ▶ Recognised qualifications ▶ Institutional framework (e.g., universities, colleges) <p>Accreditation and Recognition: Formally recognised and accredited microcredentials integrated with existing degree programmes.</p> <p>Quality Assurance: High standards and rigorous assessments aligned with national and international educational standards.</p> <p>Career Advancement: Enhanced employability and acquisition of specialised skills with clear pathways to further education and career progression.</p> <p>Flexibility: Flexible learning modes such as online, hybrid or part-time options to fit alongside existing coursework.</p>
Non-Formal Education Sector	<ul style="list-style-type: none"> ▶ Organised learning outside formal institutions ▶ No standardised curricula ▶ Includes professional training, workshops and community education <p>Skill Development: Practical skills and competencies directly applicable to professions or personal interests, focusing on industry-relevant skills and upskilling.</p> <p>Recognition by Employers: Microcredentials recognised and valued by employers and industry bodies, aligned with labour market demands and trends.</p> <p>Accessibility and Inclusivity: Accessible to diverse populations, including working adults, unemployed individuals and marginalised groups, with consideration of affordability and ease of access.</p> <p>Immediate Application: Short, intensive courses that can be immediately applied to improve job performance or open new career opportunities, providing quick returns on investment.</p>
Informal Education Sector	<ul style="list-style-type: none"> ▶ Self-directed, unstructured learning ▶ Often experiential and voluntary ▶ Learning through hobbies, personal interests, and everyday activities <p>Personal Enrichment: Microcredentials for personal growth, hobbies and lifelong learning, focusing on diverse and niche topics.</p> <p>Flexible and Unstructured Learning: Flexibility in terms of pace, time and place of learning, with non-traditional formats such as online courses, webinars and informal workshops.</p> <p>Community and Networking: Microcredentials that facilitate community building and networking opportunities with like-minded individuals, offering social learning environments and peer support.</p> <p>Recognition and Sharing: While formal accreditation is less critical, users value recognition in the form of digital badges or certificates that can be shared on social media and professional networks.</p>

APPENDIX 4: CASE STUDIES

MicroCreds

Ireland's **MicroCreds** Project is an ambitious five-year, €12.3 million project (2020–2025) led by the Irish Universities Association (IUA) in partnership with seven of the founding IUA universities: University College Dublin, University College Cork, University of Limerick, Trinity College Dublin, DCU, University of Galway and Maynooth University. The Irish project partner universities are collaborating to develop, pilot and evaluate the building blocks required for a transformation in lifelong learning through microcredentials. This project aims to harness the potential microcredentials have to reimagine and reframe the relationship between learners, universities, enterprise and civil society partners, generating a step-change in lifelong and life-wide learning. The project aims to address the barriers to participation in lifelong learning, including time constraints for learners and inflexibility in current programme provision and delivery by expanding the provision of quality-assured microcredentials so that learners can access learning in discrete small units, at a time and pace which allows greater balance with both life and work commitments.

Cedefop

In a 2023 European Centre for the Development of Vocational Training **Cedefop Irish case study**, McCoshan (2023) describes a microcredential project using badging from international provider City and Guilds to provide training in Near Zero Energy Buildings (NZEB) standards. Waterford and Wexford Education and Training Board, an FET provider, has developed a set of ten short NZEB courses with input from industry, government and local authority partners. The programmes are quality assured by City and Guilds, as well as being recognised by the Construction Industry Federation.

FET Sector

Ireland's FET sector: has a long tradition of providing training where learners can take small component modules as they need them and combine them to gain major qualifications. **Skills to Advance** (SOLAS, 2024b) is a national initiative in the further education and training sector that provides upskilling and reskilling opportunities to employees in jobs undergoing change and to those currently employed in vulnerable sectors. It aims to equip employees with the skills they need to progress in their current role or to adapt to the changing job market. Working closely with small and medium-sized enterprises, Skills to Advance helps employers identify skills needs and invest in their workforce through Micro-Qualifications (see 3.1.1). SOLAS (2024b), the state agency that oversees the Further Education & Training sector in Ireland, has been piloting approaches with QQI to validate new awards composed of stackable certified microcredentials in the FET context.

