CONCO>E TŪHURA

The place of micro-credentials in New Zealand

Stuart G. A. Martin



GEORGE ANGUS CONSULTING



ConCOVE Tūhura © Copyright material on this report is protected by copyright owned by ConCOVE Tūhura. Unless indicated otherwise for specific items or collections of content (either below or within specific items or collections), this copyright material is licensed for re-use under the Creative Commons Attribution 4.0 International licence. In essence, you are free to copy, distribute and adapt the material, as long as you attribute it to ConCOVE Tūhura and abide by the other licence terms. Please note that this licence does not apply to any logos, emblems and trademarks or to the design elements including any photography and imagery. Those specific items may not be re-used without express permission.

ACKNOWLEDGEMENTS

This report was made possible through the support and guidance of many individuals and organisations. Foremost, we wish to acknowledge the New Zealand Construction and Infrastructure Centre of Vocational Excellence, with special thanks to Eve Price for her unwavering support, encouragement, and insightful advice. We are deeply grateful to them for funding this research and enabling an in-depth exploration of this important topic. We are also very grateful to Anastasia Pouliou and Neil Miller for their feedback and suggestions in the development of this report. Our sincere thanks extend to the industry leaders and education professionals who generously contributed their time, expertise, and perspectives. This report strives to accurately and respectfully reflect your insights and priorities, and we hope it does justice to the views and needs you have shared with us.

CONTENTS

Executive summary	5
Definitions	6
Introduction	7
Case studies	8
Australia	8
Canada	9
Ireland	11
Singapore	12
UK	14
Private sector	16
Musa	16
Engineers Australia	16
International case study analysis	17
Systems change analysis	18
Policies	19
Practices	21
Resource flows	23
Relationships & connections	25
Power dynamics	27
Mental models	29
Cross-cutting themes	31
Recommendations & proposals	32
Sizing	32
Communication	33
Micro-credential register	33
Funding	34
Terminology	34
Conclusion	35
References	36

EXECUTIVE SUMMARY

Micro-credentials have emerged as a significant opportunity to address workforce needs and foster lifelong learning in New Zealand. Introduced into the New Zealand Qualifications Framework (NZQCF) in 2018, these short, focused pieces of learning aim to bridge skills gaps and enhance employability. Despite their potential, the adoption and impact of micro-credentials has reduced, necessitating a strategic reassessment of their place within the education and workforce development ecosystem.

This report evaluates the current state of micro-credentials in New Zealand through an extensive systems change analysis, covering policies, practices, resource flows, relationships, power dynamics, and mental models. While New Zealand's framework allows flexibility and recognises the industry relevance of micro-credentials, challenges such as fragmented policies, inconsistent adoption across sectors, and limited awareness among learners and employers hinder their broader impact.

International comparisons reveal valuable insights. Initiatives like Ireland's MicroCreds and Australia's MicroCred Seeker highlight the importance of centralised strategies, robust funding models, and clear pathways for integrating micro-credentials into larger qualifications. Singapore's focus on lifelong learning and flexible delivery methods further underscores the potential of micro-credentials to adapt to emerging workforce needs.

The report outlines actionable recommendations, including redefining micro-credential structures to ensure clarity, improving communication strategies to enhance visibility and trust, and overhauling the NZQA register to increase usability and transparency. It also advocates for embedding micro-credentials into a broader lifelong learning strategy, aligning them with national and regional priorities to address skills shortages and promote equitable access. Enhanced funding mechanisms, such as employer levies and regional grants, are proposed to ensure sustainability and inclusivity.

By addressing these gaps and leveraging international best practices, New Zealand can unlock the full potential of micro-credentials, transforming them into a central pillar of its education and workforce development system. These changes will empower learners, strengthen industries, and position the country for sustained economic and social growth.

DEFINITIONS

Sector entity	Roles			
Digital Credential	A digital record of focused learning achievements, verifying what the learner knows, understands and/or can do. The recognition of a piece of learning available online, usually in a digital certificate or digital badge format ¹ .			
Digital Certificate	A digital certificate is a verifiable document that proves an individual's skills, knowledge, experience, and achievements in a digital format. They can take the form of educational certificates, certificates of achievement, or certificates of compliance ² .			
Digital Badge	A clickable graphic that contains an online record of an achievement, the work required for the achievement, evidence of such work, and information about the organisation, individual, or entity that issued the badge ³ .			
Micro-credential (New Zealand definition as at 2024)	Small, stand-alone awards with set learning outcomes. They recognise learner skills, experience or knowledge, while meeting demand from employer industry and communities. They are 1 to 40 credits in size, can be at any learner of the NZQCF, delivered by accredited education providers, and are develop because there is evidence that they're needed ⁴ .			
PTE	Private Training Establishment. These companies offer vocational training or higher education.			
TVET	Technical and Vocational Education Training			
WDC	Workforce Development Council. At present within New Zealand there are six of these, each responsible for different subject areas within vocational education. The WDC's set standards, develop qualifications and help shape the curriculum.			

 $^{^1\,{\}rm GIZ}$ et al, Learning for platform-based gig work.

² Credsure, What is a Digital Certificate?

 $^{^{\}scriptscriptstyle 3}$ GIZ et al, Learning for platform-based gig work.

⁴ New Zealand Qualifications Authority, Micro-credential listing, approval, and accreditation.

INTRODUCTION

Micro-credentials and digital credentials are emerging as potential gamechangers in vocational education, especially in promoting lifelong learning, yet they remain relatively misunderstood, both domestically and internationally. For the sake of this study, we are defining a micro-credential as a stand-alone (with the potential for stacking) piece of learning shorter than a qualification that includes an assessment. We define a digital credential as a digital credential as a digital credential or badge showcasing the achievement of a set of skills and/or knowledge.

This issue affects a wide range of stakeholders, including learners seeking relevant and accessible professional development opportunities, employers striving to address skills shortages and foster workforce capabilities, educational institutions navigating the changing vocational education landscape, and government bodies responsible for policy development and regulation.

Whilst the purpose of this comparative analysis and review is to uncover the variety of definitions within the concept of micro-credentials, the report does include a review of the New Zealand definition of micro-credentials as this is the one which this wider project is focused on, and will be comparing across the other definitions.

This paper is reviewing how the term is being explored and understood from a variety of countries and private sector companies to understand where there is potential for it to be utilised within New Zealand. It is focusing on countries in which English is a dominant language as the term micro-credential is an Anglicised term. Whilst other non-English speaking countries are utilising short courses and micro-credentials, they are not necessarily utilising the term, creating their own version. For this reason, to prevent confusion, the decision was made to focus on English-speaking countries.

With New Zealand establishing micro-credentials on their framework in 2018, it is imperative to understand the degree to which other countries are establishing micro-credentials in their system and potentially as part of their framework. This research is going wider than just vocational education as in a number of the countries reviewed, the higher education system was in a stronger position with micro-credential implementation, than the vocational. To understand why this is, and how it is being utilised will be useful to understand if there are any elements which can be brought into the New Zealand system in some way.

CASE STUDIES

Australia

Key takeaways:

- A significant and well-developed government regulated micro-credential catalogue exists as MicroCred Seeker.
- State funded non-accredited micro-credentials are gaining traction, as are digital badges.

In Australia there are both federal-level initiatives and separate state and territory initiatives. At the Federal level, in November 2021 they launched a National Microcredentials Framework. In the document they define microcredentials as a

"certification of assessed learning or competency, with a minimum volume of learning of one hour and less than an AQF award qualification, that is additional, alternate, complementary to or a component part of an AQF award qualification"⁵.

The framework outlined a set of unifying principles that micro-credentials should be:

- Outcomes-based.
- Responsive to industry-need.
- Tailored to support lifelong learning.
- Transparent and accessible⁶.

As part of the Federal government's investment in micro-credentials, they launched MicroCred Seeker (formally known as the Microcredentials Marketplace). This website is where "learners will be able to compare microcredentials and find the most suitable that meets education and/or employment needs. This includes functionality to search by a range of options including industry area, price and credit value towards other qualifications"⁷.

Previously, the website only showcased micro-credentials in higher education, they have however now included vocational micro-credentials too. To-date there is one infrastructure micro-credential listed and 45 construction related micro-credentials. For each micro-credential, MicroCred Seeker gives significant information including the proficiency level, the start date, mode of delivery, duration, price, overview of the learning, learning outcomes, entry requirements, information on the assessment, awards and recognition, as well as credit (where applicable).

The TAFE's (Technical and Further Education) in Australia are also utilising micro-credentials. At TAFE Queensland, they offer three products: a short course, a micro-credential, and skill sets.

- Short courses are described as getting the skills but without the piece of paper, non-accredited but with a Statement of Participation.
- Skill sets short courses which are recognised by industry and can lead to a qualification. Achievement of a skill set gives the learner a Statement of Attainment which is a nationally-recognised certification⁸.
- Their micro-credentials "offer fast and affordable professional development. With some courses taking as little as one hour to complete, you can ensure you keep up to date with the latest skills and trends in your industry. Because of how targeted micro-credentials are they can help you develop in-demand skills that employers need in today's rapidly changing job market"⁹.

⁵ Australian Government, National Microcredentials Framework.

⁶ Ibid.

⁷ Australian Government, MicroCred Seeker.

⁸ Tafe Queensland, 'Short courses and micro-credentials'.

⁹ Ibid.

If the potential learner fulfils the relevant criteria (Australian or NZ citizen or Australian permanent resident, Queensland resident, over 15 years old, not enrolled in another qualification or already taken a fee-free TAFE funded qualification) then they are eligible to undertake for free. They have designed two types of micro-credential:

- 1. "Self-directed choose when and where you access the learning material. Once you have enrolled in the microcredential you will work through well-structured course content at your own pace.
- 2. Teacher-led a fully-facilitated version of our micro-credential offering. You will attend scheduled classes and live sessions with teachers"¹⁰.

In addition to TAFE's, there are alternative TVET-focused training utilising micro-credentials happening across Australia. The Queensland government has launched a Micro-credentialing Program to provide "an opportunity to support changing workplaces by enabling the provision of focused training for new or transitioning employees in specific skills"¹¹. Successful applicants will receive up to \$250,000 to design, develop and deliver one or more micro-credentials aligned to specific industry skill gaps. The intention is that this will help support businesses and industries to adopt innovations and improve productivity. The core principles for the micro-credentials are that they are complementary to the VET system, aligned to workforce skills need, industry driven, accessible to participants, portable, and sustainable¹².

There have been a number of projects funded across 2023 and 2024 to-date. Master Builders Queensland has produced a large number of courses for learners across the construction & infrastructure sector. As with the TAFE's, they have created both short courses, masterclasses, as well as 'Business Basics Micro-credentials courses', which are funded by the Queensland Government. Out of the six Business Basics Micro-credentials courses, 4 receive their own digital badge and all six are between 3-4 hours of study, with 5 of them exclusively available online via livestream with one also available face-to-face depending on location¹³. All six are 'CPD approved'. Master Builders, in anticipation of a compulsory CPD scheme being initiated within Queensland, have taken the initiative to create their own CPD scheme. Those who meet the requirement of 6 hours of CPD will receive a Master Builders CPD badge for that year of completion to showcase that they have achieved it, in addition to a Record of Achievement certificate¹⁴.

Canada

Key takeaways:

- Industry association trying to unify the sector with micro-credential definition and principles.
- State-by-state definitions and support available too with micro-credentials.

Canada doesn't have a federal department or national system of education, meaning that there is no federal definition of micro-credentials. Despite this, in February 2023 the federal Canadian government announced a CA\$46.5 million investment in Canadian Colleges for a Resilient Recovery (C2R2). This was a "coalition focused on developing demand-driven workforce training solutions for a net-zero emissions economy through the Sectoral Workforce Solutions Program"¹⁵. For this, they launched Quick Train Canada which provided Canadians with "access to fully funded micro-credentials to help increase their skills and competencies. The training will address workforce development needs within the agriculture, clean tech, construction, natural resources and environment, and transportation sectors through 80 micro-credential courses"¹⁶. When reviewing the Quick Train Canada site in August 2024 it mentions that the fully funded element has come to an end, however they are presenting themselves as a 'one-stop shop for learners who are committed to ongoing learning and are interested in upgrading their skills to meet the demand of the green economy'¹⁷. Quick Train Canada comprises 14 education providers from across Canada¹⁸.

¹⁰ Ibid.

¹¹ Queensland Government, Micro-credentialing Program.

¹² Ibid.

¹³ Master Builders Queensland, Courses.

¹⁴ Master Builders Queensland, CPD Program.

¹⁵ Government of Canada, Government of Canada invests in training for workers in a net-zero economy.

¹⁶ Ibid.

¹⁷ Quick Train Canada, Frequently Asked Questions.

¹⁸ Quick Train Canada: About Us.

The industry association Colleges & Institutes Canada have created their own definition and guiding principles for micro-credentials as a way of trying to unify what is happening in the upskilling and reskilling industries of Canada. They have listed 51 colleges and institutes offering micro-credentials, though they do accept that not all use the same definitions¹⁹.

Their definition of a micro-credential, or as they call it, a 'microcredential', is

"a certification of assessed competencies that is additional, alternate, complementary to, or a component of a formal qualification"²⁰.

It is quite a broad, open definition, similar in scope to others. They have expanded upon this definition with their guiding principles of micro-credentials which are:

- 1. Microcredentials can be a complement to traditional credentials (certificate, diploma, degree or post-graduate certificate) or stand alone.
- 2. Microcredentials are subject to a robust and rigorous quality assurance process.
- 3. Microcredentials should represent competencies identified by employers/industry sectors to meet employer needs.
- 4. Microcredentials may provide clear and seamless pathways across different credentials (both non-credit and credit) and may be stackable.
- 5. Microcredentials are based on assessed proficiency of a competency, not on time spent learning.
- 6. Microcredentials are secure, trackable, portable and competency is documented in students' academic records.
- 7. Microcredentials are to follow institutional approval processes²¹.

Similar to others, these principles focus on industry need, but also push the route of micro-credentials leading to pathways. Number 6 is interesting in that it ties digital credentialing to micro-credentials: focusing on the trackable and documented, to enhance the value and the rationale for micro-credentials.

There are also provincial variations and additional information/support. Nova Scotia for instance have done significant work in the space. In April 2023 they published their Nova Scotia Microcredential Framework which provided their own definition of a micro-credential, as well as their guiding principles and quality assurance. They define a microcredential as a "recognition of an assessed competency or skill earned through a short-duration or applied learning experience. Microcredentials can stand alone or connect to other credentials, and align with sector, employer, profession, community, or learner needs"²². Their intention with the definition was to align with other international and provincial approaches rather than create something unique, this ties in with their four guiding principles of partnerships, pathways, trustworthiness, and relevance.

Intriguingly, in their glossary they defined a 'badge' as a "digital representation of a microcredential that contains structured information (called metadata) that is standardized for easier sharing and can be evaluated and authenticated via embedded links"²³. In addition to their principles, Nova Scotia have created their own micro-credential partners search engine from which learners can search for micro-credential partners by either the mode of delivery (online, in-person or blended), partner name, or category²⁴. At present, for the construction sector there was only one college listed as offering micro-credentials: Nova Scotia Community College which offer Construction Estimating, Contracts and Project Management Certificate and Climate Literacy for Construction Trades Course²⁵.

¹⁹ Colleges & Institutes Canada, National framework for microcredentials.

²⁰ Ibid.

²¹ Ibid.

²² Nova Scotia, Nova Scotia Microcredential Framework.

²³ Ibid.

²⁴ Nova Scotia, Find microcredential partners.

²⁵ Nova Scotia Community College, Microcredentials.

Ireland

Key takeaways:

1. Significant higher education attempt at micro-credential unity as MicroCreds.

2. Vocational education small awards exist via SOLAS as short and stackable credentials.

There isn't an 'official' definition of micro-credentials within Ireland, but the term is being utilised and defined across several different facets of the education sector.

SOLAS, the state agency responsible for Further Education and Training (FET) in Ireland have created microqualifications (MQ's). They are a new offering to "future-proof businesses, with programmes comprising of short, stackable accredited qualifications tailored to fit employees' work schedules and provided at little or no cost to employers²⁶. Created in partnership with industry, FET micro-qualifications are provided at local level by the Education and Training Boards network under the Skills to Advance initiative"²⁷. The majority of the MQ's are 50 hours in total: 25 hours of training delivery and 25 hours of self-directed learning²⁸. The MQ's are also QQI (Quality and Qualifications Ireland) accredited with awards available at Levels 5 and 6 on the National Framework of Qualifications, and are also highly subsidised, significantly reducing the cost to the learner and employer^{29,30}. On their main page they also offer a register of current MQ's across 16 providers with 24 MQ's in the Engineering, manufacturing and construction category³¹. The value of subsidising for both the learner and employer, incentivising upskilling/reskilling, and, importantly, have the micro-credentials accredited and levelled gives a reference point of understanding to employers and learners.

MicroCreds is a higher education project (2020-2025) led by the Irish Universities Association, working with seven of their universities. There are four main strands to their project:

- creating a national framework for micro-credentials
- a process for data-informed collaboration with enterprise
- a portal to provide access to all micro-credentials from the partner universities as well as exploring entry to the EU's digital credentialing system Europass
- having agilely developed, consistent, and flexibly delivered micro-credentials created across the universities, enabling each university to create them based on their own strengths and regional requirements³².

They are 1-30 ECTS in size (1 ECTS (European Credit Transfer and Accumulation System) is 25 learning hours) with most being 5 or 10 ECTS and are at levels 6-9 on the National Framework of Qualifications (NFQ)^{33,34}.

²⁶ McCoshan, Andrew, Case study Ireland.

²⁷ SOLAS, Micro-Qualifications.

²⁸ SOLAS, Further Education and Training Micro-Qualifications.

²⁹ Ibid.

³⁰ SOLAS, Micro-Qualifications.

³¹ Ibid.

³² Human Capital Initiative, MicroCreds.

³³ Ibid.

³⁴ Francis, Emma, A National Framework for Micro-Credentials in Ireland.

MicroCreds have incorporated the micro-credential definition created by, and adopted by the European Union in 2022:

"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."³⁵

This definition is applied across all member states of the EU but they have the option to create their own adaptation. This definition is similar to some of the others in that there is an explicit reference, not only to the learning but to the sharing and portability of the credential.

The MicroCreds Catalogue currently has 438 micro-credentials and is split by subject area, within the subject space they can be searchable by subject area, delivery mode, course duration, level, university, and subsidy. In the MicroCreds catalogue at present there are 29 microcreds available in the Engineering, Manufacturing, and Construction space and 13 microcreds available in the Green Energy and Sustainable Technology space^{36,37}. Examples of these include three 8-week blended credentials from the University of Galway: Digital Construction Technologies, Modern Methods of Construction, and Sustainability Planning in Construction.

Even though University College Cork is a member of the MicroCreds programme, in addition to the courses listed on the MicroCreds catalogue, they have listed other courses under their short courses for which they have said:

"Many of our courses offer a digital badge. A digital badge is a micro-credential, which is awarded to a participant upon successful completion of a course. The digital badge holds information in relation to the course, the topics covered, the skills acquired, the year it was achieved, and the awarding institution. UCC's digital badges are referred to as open badges which allows them to be displayed on your online/e-portfolio to support continued professional development"³⁸.

It's interesting to note that even within the system of MicroCreds, there are still differences around this terminology and the interchangeability of these terms.

Singapore

Key takeaways:

1. Pledged government support to standardise naming of credentials and increase recognition.

2. National support for lifelong learning and training.

There is no national definition for micro-credentials in Singapore, however, there are a number of different areas of education both formal and informal that are utilising micro-credentials at present.

SkillsFuture Singapore (SSG) is a national programme promoting lifelong learning for all of Singapore³⁹. Their four key priorities are to:

- Help individuals make well-informed choices in education, training and careers
- Develop an integrated high-quality system of education and training that responds to constantly evolving needs

 $^{^{\}scriptscriptstyle 35}$ Irish Universities Association, MicroCreds Project Overview.

³⁶ MicroCreds, Engineering, Manufacturing and Construction.

³⁷ MicroCreds, Green Energy and Sustainable Technology.

³⁸ University College Cork Ireland, Courses we offer.

³⁹ SkillsFuture, About SkillsFuture Singapore.

- Promote employer recognition and career development based on skills and mastery
- Foster a culture that supports and celebrates lifelong learning⁴⁰

Whilst they are not referenced as micro-credentials, as these are all short courses and for lifelong learning, there is significant overlap, and it can be argued that their characteristics are essentially micro-credentials.

One of the facets of SSG is 'MySkillsFuture', a searchable course catalogue with 58 different areas of training, in addition to these there are course highlights including Critical Core Skills, Digital Economy, Green Economy and a SkillsFuture Career Transition Programme. Under Building and Construction courses as of August 2024 there were 588 courses listed. These are taken from a variety of institutions across Singapore, they come with course overviews, learning outcomes, relevant job roles, entry requirements, modes of delivery, the cost (both full fee and the cost after SkillsFuture funding), and, uniquely, ratings from trainees who had attended the course previously⁴¹.

There are also certain providers in Singapore who do offer courses using the term micro-credentials. At the National University of Singapore, they have 'Micro-credentials @ NUS', which they define as

"our suite of stackable certificate programmes (micro-credentials) that have been created to meet the needs of learners at different stages of their lives and careers"⁴².

They have five different certificate types, depending on what the learner requires: two types are for industryrelevant skills that could be applied immediately to people's jobs in the form of Professional Certificates, which can then be stacked into an Advanced Professional Certificate. The other is an option to stack credentials into a fulldegree qualification, via Specialist Certificate (undergraduate), Executive Certificate (post-graduate) or Graduate Certificate (post-graduate)⁴³.

The NUS Lifelong Learning (L³) Catalogue features over 1000 courses and certificates and searchable via price, funding available, delivery mode, type, and area of interest⁴⁴.

Singapore Polytechnic (SP) offer micro-credentials and are defined as a "digital certification indicating demonstrated competency against transparent standards". In addition to earning micro-credentials via learning, SP also offer pathways to earn micro-credentials via Assessment Only Pathways (AOP) and Recognition of Prior Learning (RPL) where applicable⁴⁵. When a learner achieves a micro-credential, SP "issues a skills credential badge to formally acknowledge and validate the demonstrated skill"⁴⁶. The flexibility which SP are able to provide, utilising AOP and RPL in micro-credentials is exciting and something that is missing at present in New Zealand and other countries.

The Singapore Institute of Technology (SIT) created a competency-based stackable micro-credential (CSM) pathway in Infrastructure and Systems Engineering. The micro-credentials are all separate, with each achievement earning the learner a Specialist Certificate. The micro-credentials can also be stacked towards a Bachelor of Engineering (Honours) in Infrastructure and Systems Engineering degree. The micro-credentials are valid for five years when used for stacking towards the degree⁴⁷. It is interesting to note that even though they class it as a micro-credential, they are given a certificate too, something which, potentially is more recognisable currently in Singapore, more value.

At the SkillsFuture Forum in July 2024, Singaporean Education Minister Chan Chun Sing discussed the popularity of micro-credentials in Singapore, stating that micro-credential courses increased from 34,000 in 2019 to 42,000 in 2022. He also mentioned that there is the intention for polytechnics, universities and Institutes of Technical Education (ITEs), to standardise the naming of credentials and with further work to come on how to make credentials more recognisable across institutions⁴⁸.

⁴⁰ SkillsFuture, About SkillsFuture.

⁴¹MySkillsFuture, Building and Construction courses.

⁴² National University of Singapore, Micro-credentials @ NUS.

⁴³ National University of Singapore, Micro-credentials @ NUS.

 $^{^{\}rm 44}$ National University of Singapore, NUS Lifelong Learning (L³) Catalogue.

⁴⁵ Singapore Polytechnic, Micro-Credentials @ SP.

⁴⁶ Singapore Polytechnic, Micro-Credentials @ SP.

⁴⁷ Singapore Institute of Technology, Infrastructure and Systems Engineering.

⁴⁸ Channel News Asia, The push for micro-credentials in Singapore.

United Kingdom

Key takeaways:

- Local and regional training and skill recognition occurring.
- Higher education are the main purveyor of micro-credentials in the UK.

Currently the UK has no official definition for micro-credentials, however there is implementation happening across the country via both higher education and local offerings.

In the higher education space there are several ways that the term is being utilised. The Open University offer both micro-credentials and short courses. Micro-credentials are defined as

"professional development short courses...designed to help you quickly build in-demand career skills and knowledge and get ahead"⁴⁹.

They are 10-12 weeks in duration with 10-13 hours of study per week. At present they offer micro-credentials in leadership & management; computing and digital technologies; environment, climate change and sustainability; teacher development and inclusive learning; and health and social care⁵⁰. Whilst the micro-credentials are standalone, the Open University does allow for some of them to be used towards their qualifications, they also state that the credit awarded to those micro-credentials "may potentially be used at another university, subject to the agreement of the receiving institution"⁵¹. The difference between microcredentials and short courses at the Open University are several: short courses are promoted as being between 25-100 hours of study, whilst microcredentials are between 10-12 weeks. Short courses do not get any academic credit, whilst microcredentials get 10-15 credits⁵².

Glasgow University have created their micro-credentials differently, positioning them as industry-led CPD courses. They're defined as:

- 10 academic credits acquired over 10 weeks
- Fully online and flexible to accommodate your schedule
- A curriculum informed by rigorous job market analysis⁵³

The university also referenced that each micro-credential they offered also met the quality standards set by the Common Microcredential Framework (CMF). The CMF is described as a "collaborative effort by leading European online education providers"⁵⁵.

The criteria to comply with the CMF are fourfold:

- 1. That the credential be between 100-150 hours of work (4-6 ECTS)
- 2. That the credential be EQF (European Qualifications Framework) Level 5-8
- 3. That the institution provides a transcript/diploma supplement showcasing learning outcomes, hours, EQF and ECTS earned
- 4. That the institution operates a reliable method of ID verification⁵⁶

56 Ibid.

⁴⁹ Open University, Microcredentials.

⁵⁰ Ibid.

⁵¹ Ibid.

⁵² Open University, Find your course type.

⁵³ University of Glasgow, Microcredentials at Glasgow.

⁵⁴ Ibid.

⁵⁵ European MOOC Consortium, Common Microcredential Framework.

At a local level in the UK, combined authorities and city councils can develop skills training and post-16 education⁵⁷. The Royal Borough of Kingston upon Thames, in collaboration with Kingston College and a number of other partners, developed a 12-week pilot aimed at reducing the skills gaps, focusing on work skills, and doing it in partnership with existing training and employers⁵⁸. To help with this, they created digital badges to recognise the achievements of the learners. The intention with the project was to support the local workforce with essential skills and confidence needed for employment and provide potential employers with the assurance that earners of the badges were prepared for work⁵⁹. This is also something which they are giving to any council in the UK who wishes to use it, for free. Local learning, focusing on local skills gaps, and coming with recognised elsewhere, but with WorkSkills Kingston open to sharing their credentials for free with other councils, it gives the opportunity for broader recognition.

As of October 2024, most Awarding Organisations (AO's) in the UK are not creating micro-credentials. Digital badges however are growing in popularity with City & Guilds the leader in the space with 2954 different digital badges currently available⁶⁰. Whilst 43 of the 44 of the Building Services industry badges are for awards, there is one non-award course, developed with employers and delivered online, to raise awareness of the attitudes, behaviours and skills employers are looking for and help people decide if a career in construction could be right for them⁶¹. City & Guilds also create badges for short training as recognition of learning internally, such as for data protection and cyber security⁶². Although progress is observed in higher education and the private sector, developments on micro-credentials taking place in VET are to-date, still limited. With potential changes in funding and legislation however, and a growing impetus on lifelong learning, the potential for micro-credential growing in VET in the future remains a distinct possibility.

OCN London, a boutique Awarding Organisation in the UK is one of the few AO's to have implemented microcredentials. They define them as:

"micro denotes small, and credential refers to a qualification and/or an achievement.

These small qualifications support individuals to learn and earn new skills and knowledge, advance in their careers, or even change careers completely.

They are frequently on-demand, online courses that can be done in a learners own time and grant certification upon completion. They are designed to be fast, accessible, and precise"⁶³.

In the Construction space, OCN London have partnered with Local London (a partnership of 9 London boroughs), the LSIF (Local Skills Improvement Fund) and a number of industry partners. OCN London's credentials come with digital badges issued by Learning Vault and range from 6 hours to 80 hours with a variety of assessments⁶⁴. With these micro-credentials not being national awards, there is more flexibility and agility in designing them and implementing them at a rapid pace. By incorporating and using local funding to focus on regional problems as well as partnering with industry organisations to support the content and design, OCN London have found a really beneficial system to support learners and industry.

⁵⁷ Stowers, Sophie, UK in a Changing Europe, Local government in England, Scotland and Wales.

⁵⁸WorkSkills, Bridging the Gap.

⁵⁹ Navigatr, Workskills.

 $^{^{\}rm 60}\,{\rm City}$ & Guilds, Digital Credentials.

⁶¹City & Guilds, Ready for Construction.

⁶² City & Guilds, Internal Credentials.

⁶³ OCN London, Microcredentials.

⁶⁴ OCN London, Microcredentials LSIF Brochure.

PRIVATE SECTOR

In addition to those organisations following legislated/state-mandated definitions and structures, there are private sector initiatives undertaking the design and implementation of micro-credentials too.

Key takeaways:

- Industry-led structures exist and succeed within countries with and without significant micro-credential structures.
- Innovative strategies are being developed and implemented for micro-credentials to cater for those without certain technologies.

Musa

Musa is an edtech solution focused on training front-line and blue-collar workers, based in Peru. Their mission is to provide accessible, effective, and scalable training solutions that empower workers with the skills they need to excel in their roles and advance in their careers. They specialise in delivering micro-courses via WhatsApp, making training accessible to even the most remote areas without requiring advanced technological infrastructure with modules usually lasting no more than 15 minutes.

One client which Musa are working with at the moment will reach 5,000 users across Peru. The training initiative focuses on technical micro-courses for their retail sellers, who are crucial, as self-construction is a significant market in Peru. The training covers:

- 1. Common Construction Mistakes
- 2. Correct Stirrup Bending
- 3. Placement of Stirrups in Columns and Beams

After completing these three sessions, students will have access to an evaluation. Upon passing, they will receive a certificate issued by their client. This project is focused on upskilling the vendors, enabling them to provide better advice to clients regarding which product to buy and how to use it. All the training costs are covered by the client, one of the two main players in the space in Peru. The training content was provided and validated by their technical experts, while they handled the instructional design and automation of the training. This example has been referenced to showcase the type of ingenuity being devised in the micro-credential space, utilising WhatsApp to develop micro-learning that is industry specific and focused and will have a direct impact on learners and industry⁶⁵.

Engineers Australia

In addition to the various ways in which Australian TVET and universities are utilising micro-credentials with the official definitions and frameworks, there are some industries which would prefer an alternative. Engineers Australia established their own micro-credential framework as they didn't agree that a micro-credential needed at least one hour of learning. They believed that there will be many in their industry who already have the skills and knowledge required but just don't have the credential to showcase that and wish to allow recognition of prior learning to be utilised to cover the whole credential. They define their micro-credentials as

"a demonstration of a specific competency or skill. They're a tick of approval that says you do what you say you can do to an industry standard"⁶⁶.

Engineers Australia provides a number of options for learners, with 3 core skill areas: rail engineering, construction engineering, and professional skills. Across each skillset they then choose a pathway from learning pathway for those who need to learn content in those areas, advisory pathway for those with knowledge and skills but needing a bit of support, and finally assessment pathway for those who already have the skillet and just want the

⁶⁵ Musa discussion and correspondence.

⁶⁶ Engineering Education Australia, Micro-credentials for Engineers.

recognition. After they have completed their pathway they receive their micro-credential which comes in the form of a digital badge⁶⁷. This industry-focused method, providing different ways to learn or get recognition, and being the industry itself, provides a different type of value.

International case study analysis

There seems to be broad consensus that micro-credentials are there primarily for industry, and for those already in work, looking to upskill/reskill. However higher education is also engaging quite significantly in the space, and there are some foundational learnings happening. Stackability also seems commonplace, building pathways to industry goals, qualifications, and in some instances, degrees.

A significant number of micro-credentials are being developed in the data/IT space as, due to their size, they can be developed significantly quicker than more traditional qualifications, thereby increasing their usefulness to industry. With regards to the construction and infrastructure sectors however, there is some development in the space, though this seems to be mostly in construction management and areas such as BIM, rather than 'core' areas.

The private sector examples are especially of interest: Engineer Australia's use of recognition of prior learning and no additional assessment required for instance. Musa's model of doing bite-sized sessions of no more than tenminute modules via WhatsApp is a particularly ingenious model which supports rural learners and those who do not have the time or the money for longer learning.

Across all of the examples, industry engagement is seen to be incredibly important, with a variety of integration to a qualification framework. What also comes out quite strongly across many of the examples is the implementation of a strong catalogue/search engine for learners to use to find micro-credentials.

In this analysis, New Zealand seems to have a more flexible system than many. If Singapore, Canada, and the Open University are amongst the most flexible: not giving a time/credit minimum or maximum, and Australia offering them with learning starting at only one hour, New Zealand currently has the flexibility of 10-400 hours of learning at any level of the framework. Ireland via SOLAS is more restrictive at being limited to 50 hours of training & learning, and the Irish MicroCreds to 1-30 ECTS and exclusively available between Levels 6-9. Glasgow only offers micro-credentials at 10 academic credits over 10 weeks. To this end, New Zealand appears to be somewhere in the middle. Whether this works for industry and learners still is an open question. Flexibility can be useful in designing and developing learning, but does too much flexibility diminish the value or the understanding of the credential? At the same time, should micro-credentials be regulated, standardised, or formalised to mimic the nature of existing sectoral and professional skills certificates when flexibility is one of its core features?

⁶⁷ Engineering Education Australia, Micro-credentials for Engineers.

SYSTEMS CHANGE ANALYSIS

To gain deeper insight into the role and potential of micro-credentials in New Zealand, a systems change analysis has been conducted to explore pathways for advancement. The analysis examined six key areas: Policies, Practices, Resource Flows, Relationships & Connections, Power Dynamics, and Mental Models—reviewing the current landscape, identifying strengths and weaknesses, and offering suggestions for improvement. Each section builds upon and influences the next, culminating in a recommendations and proposals section that distils the analysis into actionable strategies aimed at maximising the impact of micro-credentials in New Zealand. To understand how this analysis is developed throughout this section, please see the figure below:



Six Conditions of Systems Change[®]

⁶⁸ Kania, John et al, The Water of Systems Change.

POLICIES

Key Finding: New Zealand's integration of micro-credentials into their national qualifications and credentials framework has positioned it as a credible leader in credential innovation. However, fragmented coordination, inconsistent industry engagement, and limited accessibility present significant barriers to scalability and impact.

Current State:

- Integration with National Framework: Micro-credentials are an element of the New Zealand Qualifications and Credentials Framework (NZQCF). As a part of the framework, they have credits associated with them, mandatory quality assurance, and are recognised as an 'official' part of the New Zealand education system. They can range from 1 to 40 credits, offering flexible options for learners seeking to upskill or reskill without committing to long-term programs. This integration ensures that micro-credentials contribute to formal education and workforce development pathways.
- **Flexibility:** Micro-credentials can be implemented at any level (1-10) of the NZQCF, catering to a diverse range of learners, from entry-level workers to experienced professionals. This flexibility enables providers to design courses that respond quickly to emerging industry demands. As a result, micro-credentials serve as an agile solution for addressing skill shortages and fostering continuous learning.
- **Stackability:** Regulated micro-credentials can be stacked towards larger qualifications, allowing learners to accumulate credits progressively. Even without enrolling in a formal program, learners can transfer these credits when pursuing higher qualifications, enhancing accessibility. This stackability bridges the gap between short-term learning and long-term academic or vocational goals.
- **Industry Relevance:** The NZQA requires evidence of industry and community support for all approved microcredentials, ensuring alignment with current labour market demands. This approach fosters trust among employers and learners by guaranteeing that micro-credentials reflect real-world skills. By prioritising industry input, the framework promotes workforce readiness and adaptability.

Challenges:

- Lack of National Coordination: Without a unified national strategy, the development and deployment of microcredentials across sectors remain inconsistent. This decentralised approach leads to fragmented offerings that vary in quality and focus, reducing their overall impact. Establishing a national strategy could provide clearer direction and ensure cohesive development across industries.
- Sector Fragmentation: While micro-credentials have seen greater adoption in vocational education, uptake in higher education remains very limited. There is an opportunity for synergy between the two sectors; incorporating micro-credentials more fully into the higher education system would allow for consistency of approach and increase the opportunities of lifelong learning.
- Variable Industry Engagement: Although NZQA mandates industry support, the depth of engagement varies, with larger corporations sometimes playing a more dominant role. Smaller businesses and niche industries are often underrepresented, limiting the diversity of micro-credential offerings. Expanding outreach to SMEs and regional employers could ensure broader representation and more equitable skills development.
- Limited Visibility: Many learners and employers are unaware of the availability and benefits of micro-credentials. This lack of visibility is exacerbated by the absence of a centralised platform that consolidates offerings across sectors. Increasing awareness and providing a one-stop resource for exploring micro-credentials could significantly boost participation and uptake.
- Quality Assurance Gaps: While NZQA provides baseline quality assurance, the lack of standardised metrics for evaluating micro-credentials creates inconsistencies. Metrics such as learner outcomes, employment rates, and employer satisfaction are essential for measuring success and driving continuous improvement. Implementing robust evaluation frameworks would enhance accountability and quality.

Opportunities:

- **Develop a National Micro-Credential Strategy:** A cohesive national strategy for micro-credentials can align them with broader lifelong learning and workforce development goals. By embedding micro-credentials within a Lifelong Learning Strategy, New Zealand can create more accessible, flexible pathways for upskilling and reskilling. This strategy would foster greater consistency and responsiveness across sectors.
- **Strengthen Sector Integration:** Promoting the stackability of micro-credentials within higher education could bridge gaps between vocational and academic pathways. Aligning micro-credentials with degree and diploma programs would enable learners to seamlessly progress from short-term training to advanced qualifications. Such integration enhances learner mobility and workforce adaptability.
- **Inclusive Industry Engagement:** Encouraging participation from SMEs and regional employers can diversify micro-credential offerings and reflect a broader range of industry needs. Incentivising engagement through co-funding, tax benefits, and industry advisory boards can strengthen partnerships and ensure that micro-credentials address skills shortages across all sectors.
- **Centralised Platform for Accessibility:** Developing a national online portal to aggregate micro-credential offerings would improve visibility and accessibility. This platform could serve as a central resource for learners, employers, and providers, showcasing industry endorsements and stacking pathways. A user-friendly, inclusive portal would facilitate greater participation, particularly for underrepresented groups.
- Enhanced Quality Assurance: Establishing standardised metrics to evaluate the impact of micro-credentials would improve quality and accountability. Regular assessment of learner outcomes, employer feedback, and employment rates can inform continuous improvement. By embedding these metrics within the policy framework, New Zealand can ensure that micro-credentials remain relevant, effective, and responsive to evolving industry needs.

International Examples:

Global examples highlight opportunities for New Zealand to enhance its micro-credential policies:

- **Ireland:** The MicroCreds Initiative provides a national framework for collaboration between universities, industry, and government, ensuring alignment with skills demand. New Zealand could adopt a similar approach to promote consistency and scalability while addressing regional skill needs.
- **Singapore:** The SkillsFuture Credit system allocates individual learning budgets for skills training, empowering learners to pursue micro-credentials aligned with personal and professional goals. Adapting such a system could enhance accessibility and promote lifelong learning in New Zealand.
- **Canada:** Programs such as Future Skills Canada focus on creating micro-credentials for emerging sectors, emphasising responsiveness to workforce transitions. New Zealand could prioritise similar areas, such as renewable energy and advanced manufacturing.

PRACTICES

Key Finding: Micro-credentials in New Zealand have yet to reach their full potential, with uneven adoption across sectors and limited SME engagement. While larger industries like technology and healthcare show promise, gaps in standardisation, awareness, and resource availability hinder broader utilisation. Addressing these issues through employer incentives, institutional collaboration, and stakeholder partnerships can enhance micro-credential uptake and impact.

Current State:

- **Employer Engagement:** Large employers in sectors such as technology and healthcare actively collaborate with education providers to develop micro-credentials targeting workforce gaps. These employers recognise the value of micro-credentials for rapid upskilling and compliance training. However, engagement remains inconsistent across industries, limiting the scalability of micro-credentials.
- **SME Involvement:** Small-to-medium enterprises (SMEs) show minimal participation in micro-credential development due to resource constraints and limited awareness. This lack of engagement reduces the diversity of micro-credentials, resulting in offerings that primarily reflect the needs of larger corporations. Tailored strategies to involve SMEs could diversify and expand micro-credential uptake.
- Educational Institution Practices: Institutions like Te Pūkenga and private training providers have adopted flexible delivery models, offering micro-credentials online and in blended formats. These approaches increase accessibility for learners balancing work and study. However, inconsistencies in content and assessment across institutions can create confusion for learners and employers.
- **Stakeholder Involvement:** Community organisations, iwi, and government agencies have initiated microcredential projects addressing regional and cultural needs. NZQA's framework ensures regulatory oversight, but gaps in collaboration across sectors result in fragmented offerings. Improved alignment between stakeholders can enhance micro-credential integration into national workforce strategies.

Statistics:

Distinct Number of Funded Learners Enrolled in Micro-Credential Qualifications, by Tertiary Education Organisation (TEO) Type

ТЕО Туре	Reporting year					
	2019	2020	2021	2022	2023	
Te Pūkenga Work-Based Learning (WBL)	230	985	2,655	6,490	3,745	
Private Training Establishment	20	630	1,145	1,540	1,800	
Te Pūkenga	10	135	450	640	755	
University	-	-	120	550	700	
Wānanga	-	-	-	10	15	
Total Distinct Number of Learners	260	1,755	4,360	9,190	6,985	

The Tertiary Education Commission (TEC) provided data on funded micro-credential enrolments between 2019-2023:

• This data has shown a sharp drop between 2022 and 2023. When TEC were asked, they said that there was no funding difference between 2022 and 2023, meaning that this reduction can be attributed to learner/industry reduced demand.

Challenges:

- Uneven Employer Engagement: While large companies co-create micro-credentials with education providers, smaller businesses are often excluded. This imbalance skews micro-credential development towards broader industries, neglecting the needs of niche or regional markets. Engaging SMEs is essential to ensure micro-credentials reflect the full spectrum of workforce demands.
- **Perception and Awareness Gaps:** Employers, particularly in non-traditional sectors, remain sceptical or unaware of micro-credentials' value. This stems from inconsistent quality across providers and a lack of demonstrable outcomes. Promoting success stories and standardising quality could shift perceptions and increase uptake.
- Institutional Resource Disparities: Larger institutions have the capacity to innovate and offer diverse microcredentials, while smaller providers struggle to develop competitive offerings. This disparity limits access to micro-credentials in rural areas or specialised industries. Addressing funding inequalities could improve regional and sectoral representation.
- Fragmented Stakeholder Coordination: Insufficient collaboration between industry, government, and education leads to misaligned micro-credential initiatives. This fragmentation reduces the effectiveness of micro-credentials as tools for national workforce development. Establishing cross-sector hubs may bridge gaps and enhance cooperation.

Opportunities:

- **Incentivising Employer Engagement:** Providing financial incentives, such as tax benefits or grants, can encourage SMEs to participate in micro-credential development. Highlighting case studies of successful employer collaborations can further illustrate the benefits and drive interest from a broader range of industries.
- **Standardising Educational Practices:** Establishing clear frameworks for learning outcomes and assessment can improve micro-credential consistency and credibility. This standardisation can enable learners and employers to better compare offerings, fostering trust and encouraging wider adoption. In a recent CEDEFOP paper it mentions that "it is even more important to use the 'learning outcomes' lens, as this approach helps to link supply and demand and is commonly used for describing vocational qualifications; the way it is applied and interpreted in Europe varies"⁶⁹
- **Supporting Smaller Institutions:** Allocating targeted funding to smaller providers can enhance their capacity to develop micro-credentials aligned with regional and niche industry needs. This will promote equity in micro-credential availability across New Zealand, addressing gaps in underserved areas.
- **Strengthening Stakeholder Collaboration:** Creating regional hubs where education providers, employers, and government agencies co-design micro-credentials can enhance alignment with local workforce needs. This approach ensures micro-credentials reflect both national priorities and regional labour market demands.

International Examples:

- Ireland's MicroCreds Initiative: Ireland's national micro-credential strategy aligns with workforce goals by fostering collaboration between universities and industries. This structured approach ensures consistency and relevance, providing a model for New Zealand to enhance coordination.
- Australia's SME Participation: Australia actively involves SMEs in micro-credential development by offering cofunding opportunities and embedding micro-credentials into workforce retraining programs. This engagement expands offerings and ensures relevance to diverse industries.
- **Singapore's SkillsFuture Initiative:** Singapore promotes micro-credentials through government-funded lifelong learning initiatives that incentivise employer participation. SkillsFuture offers structured pathways for upskilling, demonstrating the benefits of coordinated national strategies for micro-credential adoption.

⁶⁹ Cedefop, Exploring the emergence of microcredentials in vocational education and training (VET).

RESOURCE FLOWS

Key Finding: The sustainability of micro-credentials in New Zealand is hindered by uneven resource flows and limited financial incentives for employers and learners. Current funding models disproportionately affect SMEs and underserved regions, reducing accessibility and scalability. Addressing these issues through targeted employer levies, regional grants, and expanded government support could drive equitable growth and long-term viability.

Current State:

- **Government Funding:** Micro-credentials receive limited financial support from the Tertiary Education Commission (TEC), with funding primarily directed at those listed on the NZQCF. While this provides a foundation for quality assurance, niche or region-specific micro-credentials often fall outside TEC's remit, leaving providers to cover costs or pass them on to learners. The NZ\$64 per credit cap offers affordability but restricts development in resource-intensive areas.
- Learner Contributions: Learners must often self-fund micro-credentials, with limited access to financial assistance through Studylink. This disproportionately affects individuals from low-income or rural backgrounds, exacerbating inequities in access to education. The lack of subsidised pathways restricts participation, especially for learners seeking to stack micro-credentials into larger qualifications.
- Employer Investment: Large corporations in high-demand sectors such as technology and healthcare invest in micro-credentials to upskill employees. However, SME participation remains minimal, as many small businesses lack the resources or awareness to engage in workforce development initiatives. This gap limits the overall reach and impact of micro-credential programs.

Challenges:

- Limited Industry Participation: New Zealand lacks a robust employer levy system to incentivise businesses to invest in workforce development. Unlike England's Apprenticeship Levy, there is no structured mechanism to channel employer contributions into micro-credential funding. As a result, financial responsibility falls largely on learners and government agencies, reducing the sustainability of the model.
- **Insufficient Regional Support:** Funding disparities between urban and rural regions perpetuate inequalities in micro-credential access and development. Learners in underserved areas face geographic barriers to participation, while local providers often lack the financial means to develop region-specific micro-credentials. This limits economic growth and workforce readiness in these communities.
- Inflexible Fee Structures: The capped fee model of NZ\$64 per credit restricts the development of advanced or resource-intensive micro-credentials. Providers developing micro-credentials in fields such as renewable energy or advanced manufacturing encounter financial constraints, discouraging innovation and limiting the availability of cutting-edge courses.

Opportunities:

- **Employer Levy:** Introducing a workforce levy modelled on England's Apprenticeship Levy could create a dedicated funding pool for micro-credentials. By requiring large employers to contribute a percentage of their payroll, this system could sustainably finance micro-credential development and delivery. A portion of the funds could be earmarked for SMEs to ensure equitable access.
- Expanded Government Support: Increasing TEC funding for micro-credentials in priority sectors, such as green skills or digital transformation, would enhance accessibility and drive national workforce goals. Integrating micro-credentials into Studylink could provide financial assistance to disadvantaged learners, fostering greater participation and reducing inequities.

- **SME Incentives:** Tax relief or co-funding initiatives could encourage SMEs to invest in employee upskilling through micro-credentials. This would broaden engagement, ensuring that micro-credential development reflects the needs of diverse industries and regions.
- **Regional Grants:** Allocating targeted grants for micro-credential development in rural and underserved areas could address geographic disparities. These grants would empower local providers to create courses tailored to regional labour market needs, fostering inclusive economic growth.
- **Flexible Fee Structures:** Allowing providers to apply for exemptions from the capped fee model in high-cost sectors would promote the creation of micro-credentials in emerging industries. This flexibility would encourage innovation and enable the development of high-quality, resource-intensive courses.

International Examples:

- **England's Apprenticeship Levy:** England's levy system channels employer contributions into workforce training, including micro-credentials. This model has successfully expanded access to upskilling initiatives and offers a potential blueprint for New Zealand to enhance industry engagement.
- **Canada's Workforce Development Agreements:** Canada allocates federal funding to provinces for workforce development, including micro-credential initiatives. This decentralised approach allows for tailored solutions that address regional skills shortages, promoting inclusive economic growth.
- **Germany's Dual Training System:** Germany's model combines employer investment with government support, fostering robust collaboration between industries and education providers. Micro-credentials are integrated into broader vocational education, ensuring alignment with labour market needs and technological advancements.

RELATIONSHIPS & CONNECTIONS

Key Finding: The success of New Zealand's micro-credential ecosystem relies heavily on collaboration and communication between key stakeholders. While some partnerships showcase innovation and responsiveness, many relationships remain fragmented, limiting the potential reach and impact of micro-credentials. Strengthening connections across sectors and ensuring inclusive engagement could help drive alignment and equitable access.

Current State:

- **Government and Providers:** NZQA and TEC provide regulatory oversight and funding, integrating microcredentials into the NZQCF. However, their interaction with providers is largely compliance-driven, with limited opportunities for co-creation. This approach stifles innovation and reduces the ability of providers to tailor offerings to regional, community, or industry-specific needs. Funding exists but to providers does not seem to be enough for development.
- **Industry and Providers:** Collaboration between education providers and industry exists but is inconsistent and dominated by large corporations. Providers in sectors like technology have successfully co-developed micro-credentials, yet SMEs and niche sectors are often excluded from these processes. Industry involvement tends to be consultative rather than participatory, leading to a lack of ownership and alignment.
- Workers and Learners: Learners and workers have minimal channels to influence micro-credential design, despite being the primary beneficiaries. Their limited input reduces the system's responsiveness to workforce needs and perpetuates a disconnect between training and real-world skill requirements.

Challenges:

- Lack of Coordination: Stakeholders often operate independently, resulting in fragmented initiatives and misaligned priorities. This siloed approach undermines collective progress, as government agencies focus on economic outcomes, providers on compliance, and learners on career advancement.
- **Marginalised Group Exclusion:** Māori, Pacific communities, and rural learners remain underrepresented in decision-making processes, limiting the relevance of micro-credentials to their unique needs. Without intentional efforts to engage these groups, micro-credentials risk reinforcing existing inequities.
- Variable Industry Engagement: Certain sectors, such as data and technology, actively influence micro-credential development, while others remain disengaged, as well as uneducated as to the potential benefits of micro-credentials. This inconsistency leads to uneven workforce readiness and underrepresentation of cross-sector skills essential for economic growth.

Opportunities:

- **Establish Regional Collaboration Hubs:** Develop hubs that bring together government agencies, local employers, and education providers to co-design micro-credentials that reflect regional labour market needs. These hubs could foster trust, enhance coordination, and facilitate tailored solutions that drive workforce participation.
- **Develop a National Partnership Framework:** Introduce a structured framework to define stakeholder roles, responsibilities, and engagement processes. By establishing clear pathways for collaboration, this framework would promote consistency and provide a foundation for sustainable partnerships.
- Enhance Learner Involvement: Implement regular feedback mechanisms, such as surveys, focus groups, and advisory panels, to capture learner and worker insights. This would ensure that micro-credentials evolve in line with real-time workforce demands and learner aspirations.

- Facilitate Cross-Sector Networking: Organise national and regional events that connect education providers, employers, and government agencies to share best practices and foster innovation. Networking opportunities can accelerate collaboration and drive micro-credential adoption across diverse sectors.
- **Develop Practical Guidance Toolkits:** Draw from international examples, such as APEC's Online micro-credentials toolkit, to create comprehensive resources for micro-credential development⁷⁰. Adapting such toolkits to align with NZQA standards would provide organisations with practical frameworks and reduce inconsistencies in credential design and implementation.
- Embed industry into NZQCF micro-credential development: To have a micro-credential accepted on the NZQCF there must be industry/community engagement. This engagement however is not represented on the micro-credential register and there is no format or policy for ensuring that the industry/community partner(s) who supported the micro-credential support it publicly. By having this engagement formalised and public, it could help to foster greater participation by these bodies throughout the development and implementation processes.

International Examples:

- British Columbia (Canada): BCcampus developed a 442-page micro-credential toolkit that serves as a comprehensive guide for providers, outlining best practices across design, assessment, and delivery. This has standardised micro-credential development across the province, offering a model for New Zealand to adopt.
- Scotland's Flexible Workforce Development Fund: In Scotland, collaboration between government, industry, and training providers ensures workforce training initiatives, including micro-credentials, align with national economic priorities⁷¹.
- **Singapore's Industry Collaboration Platforms:** Singapore leverages industry advisory panels to co-develop micro-credentials, ensuring alignment with evolving sector needs.

⁷⁰ APEC Secretariat, Online micro-credentials toolkit.

⁷¹ Scottish Government. Flexible Workforce Development Fund (FWDF): Evaluation.

POWER DYNAMICS

Key Finding: Power within New Zealand's micro-credential ecosystem is concentrated among larger institutions and corporations, limiting the influence of smaller providers and underrepresented communities. This imbalance curtails innovation, reduces inclusivity, and narrows the scope of credential offerings. Redistributing power through targeted policies and collaborative frameworks can foster a more equitable and responsive system.

Current State:

- **Dominance of Larger Educational Institutions:** Workforce Development Councils (WDCs), large Private Training Establishments (PTEs), and Te Pūkenga dominate micro-credential development. Their extensive resources, established infrastructure, and influence over policy enable them to shape offerings, often sidelining smaller providers that may better address niche or regional workforce needs.
- **Industry Power Imbalances:** Large corporations in high-demand sectors like technology, construction, and healthcare have a disproportionate influence over micro-credential design. This focus ensures relevance for dominant industries but neglects SMEs and sectors with less economic leverage, resulting in a narrower range of credentials that do not reflect the full breadth of workforce demands.
- Limited Learner and Community Influence: Workers, learners, and underrepresented communities have minimal involvement in shaping micro-credentials, despite being the primary users. Decision-making processes are typically driven by government agencies and larger stakeholders, reducing the responsiveness of micro-credentials to learner needs and regional or cultural priorities.

Challenges:

- **Reduced Innovation:** The concentration of power among a small number of stakeholders stifles innovation, as smaller providers and community organisations lack the resources or platform to propose new ideas. This dynamic limits the ecosystem's ability to adapt to emerging skill needs or localised industry demands.
- **Fragmentation Across Sectors:** Power imbalances create gaps between vocational and higher education sectors, limiting collaboration and creating fragmented learning pathways. Without greater integration, learners may struggle to transition between credentials or stack them effectively towards larger qualifications.
- **Equity Gaps:** The absence of Māori, Pacific communities, and other marginalised groups from decision-making processes perpetuates inequities in access and relevance. Micro-credentials risk being designed without sufficient consideration of cultural and regional needs, exacerbating existing disparities.

Opportunities:

- **Empowering Smaller and Regional Providers:** Direct funding and resource allocation to smaller providers can enable them to develop micro-credentials aligned with local and niche needs. Encouraging partnerships between larger institutions and smaller providers can drive innovation and ensure more balanced representation.
- Mandating Inclusive Representation: Establish advisory boards and working groups that require participation from Māori, Pacific, and underrepresented communities. Embedding their perspectives into micro-credential design will enhance cultural relevance and equity, ensuring offerings reflect the diversity of New Zealand's workforce.
- Facilitating SME Involvement: Create incentives, such as tax breaks or co-funding models, to encourage SME participation in micro-credential development. Regional collaboration hubs can connect SMEs with training providers, amplifying their voices and broadening credential offerings to reflect diverse industry needs.
- **Strengthening Learner-Centred Approaches:** Implement regular learner feedback loops, including surveys, panels, and consultation sessions, to integrate the perspectives of workers and learners into credential design. This ensures micro-credentials align with real-world skills and career progression goals.

International Examples:

- Ireland's SOLAS Initiative: Ireland decentralises decision-making through SOLAS, empowering regional bodies and community organisations to co-design micro-credentials with employers and providers. This inclusive approach fosters innovation and ensures offerings meet the needs of diverse populations.
- Scotland's Skills Action Plan: Scotland mandates regional representation and stakeholder input into skills development initiatives, ensuring localised needs inform national workforce strategies. This collaborative model enhances responsiveness and equity.
- **Finland's Regional Training Networks:** Finland's vocational training system relies on regional partnerships between industry, government, and educational providers. By decentralising power, Finland ensures that training programs reflect the evolving needs of both local communities and national industries.

MENTAL MODELS

Key Finding: The perception of micro-credentials in New Zealand remains limited, with many stakeholders viewing them as supplementary rather than essential to workforce development. This lack of awareness and scepticism reduces their adoption and integration into broader learning pathways. Reframing micro-credentials as valuable, flexible components of lifelong learning could enhance their credibility and usage across sectors.

Current State:

- **Employer Perceptions:** Many employers, especially SMEs, have little awareness of micro-credentials or misunderstand their value. While some larger institutions and sectors including digital understand and see the value in micro-credentials, most employers still do not understand what a micro-credential is. This limited understanding restricts the role of micro-credentials in recruitment and workforce planning.
- Learner Perceptions: Research by AcademyEx indicates that structured, cohort-based micro-credentials boost learner confidence and facilitate career transitions, demonstrating untapped potential in broader learner engagement.
- Educational Institutions: Universities and vocational training often perceive micro-credentials as competitors to traditional qualifications, limiting their willingness to fully integrate them into existing programs. While some institutions collaborate with industry on micro-credential development, the overall perception leans towards viewing them as ancillary to existing pathways. To-date no university in New Zealand offers micro-credentials as part of a pathway to undergraduate degrees. There is the opportunity in some universities to gain credit towards post-graduate degrees⁷².

Challenges:

- **Reduced Adoption:** The perception of micro-credentials as less valuable than traditional qualifications lowers their adoption among employers and learners. This restricts their impact on workforce development and limits their role in addressing skills shortages.
- **Underutilisation in Hiring:** Employers' scepticism or lack of familiarity with micro-credentials results in their exclusion from hiring practices. This perpetuates reliance on traditional qualifications, reducing opportunities for micro-credentials to demonstrate value as targeted, skill-specific tools.
- **Barriers to Lifelong Learning:** Learners hesitant to engage with micro-credentials can miss out on opportunities to upskill or reskill, particularly in fast-evolving industries. Without clear pathways linking micro-credentials to larger qualifications, participation remains limited.

Opportunities:

- **Positioning Micro-Credentials as Complementary:** Highlight the complementary nature of micro-credentials, showing how they can bridge vocational and higher education. Promoting stackable pathways that combine micro-credentials with qualifications and degrees can demonstrate their role in lifelong learning and career development.
- **Creating a Lifelong Learning Strategy:** Embed micro-credentials within a national lifelong learning strategy, positioning them as key components of continuous education. This approach can enhance public understanding and integrate micro-credentials into broader workforce development initiatives.
- **Showcasing Success Stories:** Regularly publish and promote case studies of learners and employers who have successfully used micro-credentials to upskill or transition careers. Sharing stories through NZQA reports or collaborations with providers like AcademyEx can build trust and highlight tangible benefits.

⁷² The University of Auckland, Online courses.

- **Standardising Quality:** Strengthen quality assurance frameworks to ensure consistency and credibility across micro-credential offerings. Transparent, standardised metrics for learner outcomes and employer feedback will increase confidence and drive wider adoption.
- **Employer Engagement Initiatives:** Partner with industry groups to co-develop micro-credentials, ensuring alignment with workforce needs and securing employer endorsements. Recognised partnerships with influential companies can enhance credibility and shift perceptions.
- **Public Awareness Campaigns:** Launch national campaigns to raise awareness about micro-credentials, using accessible language to communicate their flexibility, affordability, and relevance. Highlighting their role in addressing skills gaps and emerging industries can attract broader participation.

International Examples:

- Ireland's Lifelong Learning Strategy: Ireland integrates micro-credentials into national lifelong learning frameworks, positioning them as essential components of workforce development. This strategic alignment enhances public perception and drives widespread adoption.
- Australia's National Micro-Credential Framework: Australia's focus on stackability and employer engagement promotes micro-credentials as integral to workforce training. Their transparent quality assurance processes build trust among learners and employers alike.
- **Singapore's SkillsFuture Initiative:** Singapore's SkillsFuture initiative showcases micro-credentials as key to lifelong learning, with widespread public campaigns and employer endorsements. This model demonstrates how national strategies can shift mental models and promote micro-credentials at scale.

CROSS-CUTTING THEMES

During the development of the systems change analysis, four key themes kept recurring that we believed would benefit from their own analysis:

Quality Assurance and Credibility: Ensuring the credibility of micro-credentials is vital to their acceptance by employers and learners alike. The integration of micro-credentials within the New Zealand Qualifications and Credentials Framework (NZQCF) has been an important step in legitimising their value. When talking to employers in the construction and infrastructure industries for instance, they explained that they demonstrated greater trust in micro-credentials that are on the NZQCF, as the credit-based structure mirrors established qualifications that they are familiar with. However, inconsistencies in quality across providers present a challenge, with a lack of standardised metrics for assessing learner outcomes and credential effectiveness. Strengthening quality assurance measures—such as clearer frameworks for content, assessment, and industry involvement—could enhance the reputation of micro-credentials. Drawing on international models such as Ireland's transparent quality assurance processes could offer valuable insights into fostering trust and promoting micro-credentials as credible learning pathways.

Access and Equity: While micro-credentials offer flexibility and shorter learning durations, accessibility and equity challenges persist, mirroring those faced by traditional education pathways. Barriers such as cost, lack of financial support through Studylink, and geographic disparities prevent many learners—particularly those from low-income or rural backgrounds—from engaging with micro-credentials. The limited participation of Māori, Pacific communities, and other underrepresented groups further exacerbates inequities in the system. Expanding government funding, providing targeted scholarships, and integrating micro-credentials into lifelong learning strategies could enhance accessibility. Regional grants and regional development, as well as employer incentives could also help to address the lack of micro-credential development in underserved areas. Internationally, Canada's Workforce Development Agreements, which allocate funding for regional skills development, provide an example of how targeted investments can promote equitable access to training opportunities⁷³.

Innovation and Adaptation: Micro-credentials represent an opportunity to foster innovation in the education and workforce development sectors by allowing for rapid adaptation to emerging industry needs. Larger institutions and corporations have led the way in developing micro-credentials, particularly in fields such as digital technology, but smaller providers often face barriers to innovation due to limited resources and influence. This centralisation of power reduces the potential for grassroots, community-driven solutions. Creating regional collaboration hubs and co-designing micro-credentials with SMEs and community organisations can drive innovation by reflecting diverse workforce needs. Ireland's SOLAS initiative, which decentralises decision-making to empower regional and community input, highlights how redistributing influence can spark innovation and align training with local industry demands. Building pathways for smaller providers to engage in micro-credential design could promote a more dynamic, responsive ecosystem.

Resource Distribution and Sustainability: The financial sustainability of micro-credential programs in New Zealand depends on diversifying resource flows and addressing imbalances in funding. Current models rely on learner fees, limited Tertiary Education Commission (TEC) support, and sometimes, employer contributions from large corporations. However, SMEs, which form the backbone of New Zealand's economy, often lack the resources to invest in workforce development through micro-credentials. This imbalance restricts the breadth of micro-credential offerings and diminishes their long-term sustainability. Introducing employer levies, expanding government grants, and creating flexible fee structures could support greater distribution of resources. England's Apprenticeship Levy, which channels employer contributions into workforce training, offers a model that New Zealand could adapt to ensure sustainable funding. Additionally, fostering partnerships between larger institutions and smaller providers can create a more balanced, inclusive resource ecosystem that reflects the diverse needs of learners and industries.

⁷³ Labour Market Development Agreement program, Government of Canada.

RECOMMENDATIONS & PROPOSALS

Improving the micro-credential structure in New Zealand is not about starting from scratch but about refining and enhancing the existing system to better serve learners, employers, and stakeholders. The goal is to create a framework that is more accurate, transparent, and aligned with New Zealand's educational and workforce needs, both now and for the future. Drawing from the findings of the systems change analysis, this section outlines several core recommendations and proposals that have the potential to drive meaningful impact and foster a more effective and inclusive micro-credential ecosystem in New Zealand.

SIZING

The overlap between skill standards, micro-credentials, and qualifications in New Zealand's educational framework has created a landscape of confusion and inefficiency. Currently, micro-credentials can include a single skill standard, and skill standards themselves can be the same size as a micro-credential. This lack of differentiation dilutes the perceived value of each term, making it harder for learners, employers, and educators to understand their distinct purposes. Additionally, learners completing a single skill standard as part of a micro-credential may not acquire meaningful, stackable achievements, undermining the integrity of the framework.

To address these issues, we propose redefining and in some cases, resizing skill standards, micro-credentials, and qualifications to establish clear boundaries and progression pathways.

Skill Standards: Our recommendation is that these should be communicated as being foundational components, with flexible credit sizes. Skill standards would be represented as the basic building blocks of learning, designed so that they could stack into micro-credentials and qualifications, but not mandating that they must. To enhance their value and applicability, under this recommendation, there would be a requirement for at least two skill standards to form a single micro-credential.

Micro-Credentials: We recommend that micro-credentials be regarded as medium-sized pieces of learning, to be no more than 25 credits. Micro-credentials would represent cohesive packages of learning that could build on skill standards, but can also be comprised of unique learning outcomes and content, designed especially the micro-credential. By reducing the size to a maximum of **25** credits it allows for flexibility across the 1-25 credit range, but maintains the intention of shorter, more agile pieces of learning. It also offers learners and employers a clear and practical piece of learning aligned with workforce needs.

Qualifications: The proposal is that qualifications will remain unchanged, as the largest award requiring **40+** credits, with the potential of integrating both micro-credentials and skill standards. Qualifications would represent achieved learning outcomes, suitable for formal recognition within the framework.

This proposed hierarchical structure emphasises stacking as a deliberate and structured approach. By ensuring that micro-credentials require multiple skill standards, and that qualifications integrate multiple micro-credentials, the framework promotes clear pathways for progression. This approach also prevents the devaluation of terms and ensures that learners achieve meaningful outcomes at each stage of their educational journey.

Implementing these definitions requires updating NZQA policies, legislation, revising existing micro-credential and skill standard offerings, and providing detailed guidance to educators, employers, and learners. A transparent, structured system would enhance the perceived value of micro-credentials and ensure alignment with national education and workforce goals.

COMMUNICATION

Communication about micro-credentials in New Zealand has been insufficient, leading to widespread misunderstanding about their purpose, value, and place within the broader qualifications framework. While NZQA has acknowledged its responsibility to improve awareness, more proactive measures are necessary to bridge the gap between policy and practice. Effective communication is vital for promoting micro-credentials as a valuable tool for lifelong learning and workforce development.

To enhance communication, we propose a multifaceted strategy targeting key stakeholders:

Workshops and webinars: Regularly scheduled sessions should be conducted for career guidance counsellors, educators, industry representatives, and standard setters. These workshops would explain the micro-credential framework, its benefits, and its alignment with industry needs. By fostering dialogue, these events can also collect feedback to further refine the system.

Digital marketing campaigns: Social media and online platforms offer significant opportunities for promoting micro-credentials. A dedicated campaign could feature learner success stories, employer endorsements, and infographics that simplify the concept of micro-credentials for the general public.

Sector-specific outreach: Partnering with industry groups to co-host webinars or events that showcase the relevance of micro-credentials in specific fields can increase adoption. For instance, highlighting their role in tech or construction could demonstrate their immediate value to employers.

Educational resources: Creating explainer videos, brochures, and FAQs that clarify distinctions between skill standards, micro-credentials, and qualifications would provide consistent messaging. These resources could be distributed through schools, training providers, and industry organisations.

Improved communication would not only demystify micro-credentials but also foster greater buy-in from employers, learners, and education providers. By making micro-credentials more visible and accessible, this strategy would position them as an integral part of New Zealand's educational landscape.

MICRO-CREDENTIAL REGISTER

The NZQA micro-credential register plays a critical role in cataloguing approved offerings, but its current design limits its utility for learners, employers, and education providers. The register is outdated, difficult to navigate, and lacks transparency regarding the credibility and relevance of listed micro-credentials. An overhaul of this register is essential to enhance its functionality and ensure that stakeholders can make informed decisions.

Key recommendations for improving the register include:

Industry and community endorsements: For each micro-credential, the register should prominently display the industry or community groups that have endorsed or partnered in its development. This would validate the credential's relevance and showcase the accountability of endorsing groups.

Search and filter functions: Enhancing the register's user interface with robust search and filter options would make it easier for users to find micro-credentials by industry, skill area, level, delivery mode, or region. These improvements would align the register with global best practices, such as Australia's MicroCred Seeker platform.

Detailed credential information: Including comprehensive details such as learning outcomes, delivery methods, and assessment criteria would provide users with a clearer understanding of each micro-credential's value.

Data transparency: Metrics like employment outcomes, and learner satisfaction should be included to demonstrate the real-world impact of each micro-credential.

Updating the register would not only enhance its usability but also strengthen trust in the system. A modern, transparent register would position NZQA as a leader in micro-credential innovation, fostering greater engagement from learners and employers alike.

FUNDING

Funding constraints pose a significant challenge to the widespread adoption and development of micro-credentials in New Zealand. While the Tertiary Education Commission (TEC) provides funding for some micro-credentials, this support is not universal, and many learners, employers, and providers struggle with affordability.

To address funding challenges, we recommend the following strategies:

Employer levy: Implementing an employer levy, similar to the UK's system, would create a dedicated pool of funds for upskilling and lifelong learning initiatives. Employers could access these funds to subsidise the cost of micro-credentials for their workforce, incentivising greater participation.

Studylink inclusion: Allowing learners to use Studylink to finance micro-credentials would make them more accessible, particularly for individuals with limited financial resources. This inclusion would also signal the government's recognition of micro-credentials as valuable learning tools.

Industry partnerships: Encourage employers to co-invest in the development and delivery of micro-credentials. Tax incentives or subsidies could be offered to companies that actively support employee training through micro-credentials.

Flexible fee structures: Permit providers to apply for exceptions to the NZ\$64-per-credit cap where justified, particularly for high-demand or niche areas. This flexibility would ensure that micro-credentials remain sustainable while meeting diverse industry needs.

Regional: Regional funding for micro-credentials in New Zealand would ensure that offerings are tailored to the unique economic and workforce needs of specific areas, addressing localised skills shortages and fostering community development. By complementing national funding, regional investment can empower smaller providers, support niche industries, and improve access for rural learners, creating a more equitable and responsive education system that aligns with both local and national priorities.

A robust funding strategy is essential for maintaining the accessibility and relevance of micro-credentials. By balancing public and private investment, New Zealand can create a sustainable model for lifelong learning.

TERMINOLOGY

The term "micro-credential" is often misunderstood and lacks clarity, contributing to confusion among learners and employers. To resolve this, we propose a legislative change, turning NZQA-regulated micro-credentials into "Micro-Qualifications" and reserving the term **"micro-credentials"** for informal or off-NZQCF learning.

This shift could provide several benefits:

Clearer differentiation: "Micro-Qualifications" would emphasise that these are formal, recognised learning units within the NZQCF, aligning them with the broader system.

Structured pathways: Framing micro-qualifications as stackable components that lead to "Macro-Qualifications" would highlight their role in structured educational journeys.

Enhanced credibility: Using a term that implies formality and quality assurance would improve their perception among employers and learners.

By redefining terminology, New Zealand can simplify the narrative around micro-credentials and better communicate their value within the education and training system.

CONCLUSION

Micro-credentials in New Zealand are at a pivotal moment, statistically they have been reducing in enrolments and impact, and yet the need for lifelong learning is only growing. Acknowledging this is the first step toward reinvigorating and reshaping the system to better meet the evolving needs of learners, workers, employers, and industries. The recommendations outlined in this report, drawn from international best practices and an in-depth systems change analysis, present a clear opportunity to enhance the micro-credential ecosystem. Rather than starting anew, these proposals focus on refining and expanding the existing framework to ensure its relevance, accessibility, and impact.

A key aspect of this transformation is the integration of micro-credentials into a broader lifelong learning strategy. By embedding them as an essential component of a system that supports continuous education and skills development, micro-credentials can play a pivotal role in addressing workforce challenges, enabling career progression, and fostering social equity. This approach recognises the importance of tailoring micro-credentials to both national and regional priorities, ensuring they address local skill shortages while aligning with broader goals including the green transition, technological advancement, and inclusive growth.

Equally important is the need for clearer definitions and pathways within the qualification's framework. Establishing distinct boundaries between skill standards, micro-credentials, and full qualifications will enhance transparency and usability, empowering learners and employers alike. Combined with robust funding models—including regional investment, employer contributions, and expanded government support—this structure could create a sustainable and equitable system capable of reaching underserved communities and sectors.

Improved communication and terminology will also be critical to the success of these reforms. Simplifying and rebranding micro-credentials to emphasise their value and formal recognition can help overcome misconceptions and foster greater trust among learners, employers, and education providers. Additionally, targeted awareness campaigns and accessible platforms will demystify micro-credentials, making them more visible and integrated into career development and recruitment practices.

These recommendations are designed to be practical, achievable, and impactful, ensuring that micro-credentials deliver tangible benefits to all stakeholders. While questions may still be raised about their role and necessity, these proposals offer a roadmap to transform micro-credentials from a supplementary tool into a central pillar of New Zealand's education and workforce development landscape. By embracing these changes, New Zealand can create a future-focused, inclusive, and innovative system that empowers individuals, strengthens industries, and enhances the country's global competitiveness.

REFERENCES

APEC Secretariat. (2024), Online micro-credentials toolkit, https://www.apec.org/docs/default-source/publications/2024/6/224_hrd_online-micro-credentials-toolkit.pdf?sfvrsn=835ec4fd_1

Australian Government: Department of Education Skills and Employment. (2021), National Microcredentials Framework.

Australian Government Department of Education. MicroCred Seeker (Microcredentials Marketplace), accessed 2 August 2024, https://www.education.gov.au/microcred-seeker

Cedefop, Pouliou, A. (2024) Exploring the emergence of microcredentials in vocational education and training (VET). Publications Office of the European Union. https://data.europa.eu/doi/10.2801/671358

Channel News Asia, Abu Baker, Jalelah. The push for micro-credentials in Singapore: What are they and are they for you?, accessed 14 August 2024, https://www.channelnewsasia.com/singapore/micro-credentials-institutes-higher-learning-moe-chan-chun-sing-skills-upgrade-4475331

City & Guilds. Digital Credentials, Accessed 13 August 2024, https://digitalcredentials.cityandguilds.com/issuer/112920/ credentials

City & Guilds. Ready for Construction, accessed 16 August 2024, https://digitalcredentials.cityandguilds.com/group/588154

City & Guilds. Internal Credentials, Accessed 16 August 2024, https://digitalcredentials.cityandguilds.com/group-collection/112920/collection/fcdb2418-cc24-11ee-8758-078c7b850113

Colleges & Institutes Canada. National framework for microcredentials, accessed 20 July 2024, https://www.collegesinstitutes. ca/colleges-and-institutes-in-your-community/benefit-college-institute-credential/national-framework-for-microcredentials/

Credsure. (May 23 2024) What is a Digital Certificate? The complete Guide, https://credsure.io/blogs/what-is-a-digital-certificate/

Engineer Education Australia. Micro-credentials for Engineers, accessed 26 July 2024, https://eea.org.au/micro-credentials-engineers

European MOOC Consortium. Common Microcredential Framework, https://emc.eadtu.eu/cmf

Francis, Emma. (2022) MicroCreds: A National Framework for Micro-Credentials in Ireland, https://www.earlall.eu/wp-content/uploads/2022/05/Emma-Francis-SwissCore-12.05.22.pdf

FSG, Kania, John; Kramer, Mark; Senge, Peter. The Water of Systems Change, , accessed 4 December 2024, https://www.fsg. org/resource/water_of_systems_change/

GIZ, Martin, Stuart; Gianchandani, Pooja. (2023) Learning for platform-based gig work: Exploring the value of micro and digital credentials, GIZ, 2023.

Government of Canada. (2024) About the Labour Market Development Agreements program, https://www.canada.ca/en/ employment-social-development/programs/training-agreements/Imda.html

Government of Canada. (2023) Government of Canada invests in training for workers in a net-zero economy, https://www. canada.ca/en/employment-social-development/news/2023/02/government-of-canada-invests-in-training-for-workers-in-a-net-zero-economy.html

Health Informatics New Zealand (HiNZ). (2024) Micro-credential projects deliver for Māori and Pacific populations, accessed 5 October 2024, https://www.hinz.org.nz/news/672884/Micro-credential-projects-deliver-for-Mori-and-Pacific-populations. htm

Human Capital Initiative. MicroCreds, accessed 27 July 2024, https://hea.ie/skills-engagement/microcreds/

IEEE, Parsons, David; Sparks, Hayley; Vo, Darcy; and Anzel Singh. (2023) The student experience of technology-focused microcredentials as part of a larger learning journey.

IfATE. Assistant Practitioner (Health) Occupational Map, accessed 24 November 2024, https://occupational-maps. instituteforapprenticeships.org/maps/occupation/OCC0215

Irish Universities Association. MicroCreds Project Overview, accessed 27 July 2024, https://www.iua.ie/overview-microcreds/

Master Builders Queensland. Courses, accessed 11 August 2024, https://www.mbqld.com.au/training/courses

Master Builders Queensland. CPD Program, accessed 11 August 2024, https://www.mbqld.com.au/membership/cpd-program

McCoshan, Andrew (2023). Case study Ireland: Microcredentials for labour market education and training. First look at mapping microcredentials in European labour-market-related education, training and learning: take-up, characteristics and functions. Thessaloniki: Cedefop.

MicroCreds. Engineering, Manufacturing and Construction, accessed 28 July 2024, https://microcreds.ie/browse/science-and-engineering/engineering-manufacturing-and-construction

MicroCreds. Green Energy and Sustainable Technology, accessed 28 July 2024, https://microcreds.ie/browse/science-and-engineering/green-energy-and-sustainable-technology

Musa, discussion and correspondence.

National University of Singapore. Micro-credentials @ NUS, accessed 11 August 2024, https://scale.nus.edu.sg/programmes/ lifelonglearning/micro-credentials#:~:text=NUS%20Lifelong%20Learning%20(L3,policy%2C%20engineering%20and%20 social%20sciences.

National University of Singapore. NUS Lifelong Learning (L³) Catalogue, accessed 11 August 2024, https://inetapps.nus.edu. sg/SACS/

Navigatr. WorkSkills accessed 11 August 2024, https://navigatr.app/provider/452/workskills

Newshub, Rutledge, Daniel. (2024). Apple and Te Pūkenga REJI partnership's first 40 participants graduate in Auckland, accessed 1 November 2024, https://www.newshub.co.nz/home/new-zealand/2024/03/apple-and-te-p-kenga-reji-partnership-s-first-40-participants-graduate-in-auckland.html

Nova Scotia. (2023) Nova Scotia Microcredential Framework, , https://beta.novascotia.ca/sites/default/files/documents/1-3545/ nova-scotia-microcredentials-framework-en.pdf

Nova Scotia. Find microcredential partners, accessed 11 August 2023, https://beta.novascotia.ca/microcredentials-partners

Nova Scotia Community College. Microcredentials, accessed 11 August 2024, https://www.nscc.ca/programs-and-courses/ coned/career-and-professional-development/microcredentials/index.asp

New Zealand Qualifications Authority. Micro-credential listing, approval, and accreditation, accessed 2 September 2024, https://www2.nzqa.govt.nz/tertiary/approval-accreditation-and-registration/micro-credentials/

New Zealand Qualifications Authority, Neal, Terry; Klinkum, Grant; Miller, Neil. 2022 Improving Relevance and Responsiveness: Aotearoa New Zealand's early micro-credentials journey.

New Zealand Qualifications Authority, Neal, Terry; Klinkum, Grant; Miller, Neil. 2022Improving Relevance and Responsiveness: Aotearoa New Zealand's rationale for micro-credentials.

OCN London. Microcredentials, accessed 5 October 2024, https://ocnlondon.org.uk/our-products/microcredentials/

OCN London. Microcredentials LSIF Brochure.

Open University. Find your course type, accessed 25 July 2024, https://www.open.ac.uk/courses/types

Open University. Microcredentials, accessed 25 July 2024, https://www.open.ac.uk/courses/microcredentials

Prud'homme-Généreux, Annie. (2023) BCcampus Micro-credential Toolkit for B.C., https://opentextbc.ca/bcmicrocredential/

Queensland Government, Department of Employment, Small Business and Training. Micro-credentialing Program, accessed 11 August 2024, https://desbt.qld.gov.au/training/employers/funding/micro-credentialing

Quick Train Canada. Frequently Asked Questions, accessed 8 August 2024, https://quicktraincanada.ca/faq/

Quick Train Canada. About Us, accessed 8 August 2024, https://quicktraincanada.ca/about-us/

Scottish Government. (2023) Flexible Workforce Development Fund (FWDF): evaluation – key findings, https://www.gov.scot/publications/evaluation-flexible-workforce-development-fund-fwdf-key-findings/

SkillsFuture. About SkillsFuture, accessed 12 August 2024, https://www.skillsfuture.gov.sg/aboutskillsfuture

SkillsFuture. About SkillsFuture Singapore, accessed 12 August 2024, https://www.skillsfuture.gov.sg/aboutssg

SkillsFuture. MySkillsFuture, Building and Construction courses, accessed 12 August 2024, https://www.myskillsfuture. gov.sg/content/portal/en/training-exchange/course-directory.html?fq=Course_Supp_Period_To_1%3A%5B2024-08-18T00%3A00%3A00Z%20TO%20*%5D&fq=IsValid%3Atrue&q=*%3A*&cat=fq%3DArea_of_Training_text_ exact%3A(%22Building%20and%20Construction%22)&cattext=Building%20and%20Construction

Singapore Institute of Technology. Infrastructure and Systems Engineering, accessed 12 August 2024, https://www. singaporetech.edu.sg/sitlearn/csm-pathways/infrastructure-systems-engineering

Singapore Polytechnic. Micro-Credentials @ SP, accessed 12 August 2024, https://www.sp.edu.sg/pace/courses/micro-credentials-@-sp

SOLAS. Further Education and Training Micro-Qualifications, https://www.solas.ie/f/70398/x/d7dc839ecd/6231_solas_microquals_brochure_a4_v5.pdf

SOLAS. Micro-Qualifications, accessed 27 July 2024, https://www.solas.ie/microqualifications/

Stowers, Sophie. (2024) UK in a Changing Europe, Local government in England, Scotland and Wales, https://ukandeu.ac.uk/ explainers/local-government-in-england-scotland-and-wales/

Tafe Queensland. Short courses and micro-credentials, accessed 4 August 2024, https://tafeqld.edu.au/courses/course-types/ short-courses

Te Pūkenga. Te Pūkenga and Apple announce education partnership to deliver equity to Aotearoa tech sector, accessed 15 June 2024, https://www.xn--tepkenga-szb.ac.nz/news/te-pukenga-and-apple-announce-education-partnership-to-deliver-equity-to-aotearoa-tech-sector/

Tertiary Education Commission (TEC). Funding, payments and learner fees – DQ3-7, accessed 11 November 2024, https://www.tec.govt.nz/funding/funding-and-performance/funding/fund-finder/dq3-7/funding-payments-and-learner-fees

The University of Auckland. Online courses, accessed 1 December 2024, https://www.online.auckland.ac.nz/online-courses/

University College Cork Ireland. Courses we offer, updated 6 August 2024, accessed 8 August 2024, https://www.ucc.ie/en/fitu/courses/

University of Glasgow. Microcredentials at Glasgow, accessed 25 July 2024, https://www.gla.ac.uk/study/microcredentials/

WorkSkills. Bridging the Gap, https://www.1edtech.org/sites/default/files/media/docs/2024/LIA24_Navigatr.pdf