POLICY FRAMEWORK PROPOSAL FOR THE APPLICATION OF MICROCREDENTIALS AT A NATIONAL / SECTORAL LEVEL

Project 101195980 MiCRET

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Executive Summary

1. Executive Summary

Europe's renewable-energy transition depends not only on installed capacity and investment, but also on the availability of technicians who can work safely and effectively in increasingly digital, interconnected and data-intensive energy systems. The MiCRET Skills Needs Analysis identifies a combined competence profile: technical expertise must be reinforced by digital, green and transversal skills, including data interpretation, system integration, cybersecurity awareness, advanced safety practice, communication and continuous learning. At the same time, the mapping of training provision shows that traditional programmes are often too slow, too broad or too weakly connected to emerging workplace tasks to respond at the required pace.

Microcredentials can close part of this responsiveness gap when they certify assessed learning outcomes, are quality-assured, are understandable to employers, and remain portable across institutions and borders. They are not substitutes for full occupational qualifications. Their policy value lies in adding short, stackable and verifiable learning units to existing vocational education and training (VET), higher education, continuing professional development and active labour-market systems.

This deliverable develops EU-level recommendations from three complementary evidence streams: (1) the MiCRET Catalogue of recommended and inspiring microcredential schemes; (2) the MiCRET Microcredentials Thermometer, covering 16 European and global country dashboards; and (3) national stakeholder perspectives gathered through bilateral consultations and the June and July 2026 public webinars, with a third webinar planned for August. The three streams were triangulated to identify findings that recur across design practice, national system conditions and stakeholder experience. Together these constitute the proposed framework: a renewable-energy reference specification (Recommendation 1) supported by the four-dimension Microcredentials Thermometer as its diagnostic and monitoring instrument.

Main findings

This section brings together the evidence gathered across the project - the desk research, stakeholder consultations and country evidence - into a set of consolidated observations. Collectively, these observations describe what distinguishes a high-quality microcredential, how far national systems have matured, and the current state of the main conditions for trust, employer relevance, and inclusion:

- Effective microcredentials are competence-based, assessed, granular and transparent. The strongest examples combine employer co-design, clear learning outcomes, credible assessment evidence, workload and level information, stackability, secure verification and machine-readable metadata.
- National maturity is uneven and multidimensional. Countries may have strong infrastructure without legal anchoring, strong regulation without broad employer recognition, or extensive provision without reliable usage data. The Thermometer is therefore a diagnostic and dialogue instrument, not a ranking.

- Recognition is not a single concept. Stakeholders distinguish formal recognition, level recognition, labour-market recognition and digital verification. A policy framework that treats these as interchangeable can create unnecessary barriers.
- Employer participation is decisive. Labour-market relevance is strongest when employers and social partners contribute to skills intelligence, programme design, assessment and recognition - not merely to end-stage endorsement.
- Interoperability and learner ownership are trust conditions. Digital credentials should be verifiable and portable, with metadata aligned to European instruments and capable of being stored and shared through learner-controlled wallets or records.
- Inclusion requires design and funding choices. Without targeted guidance, subsidies, accessible formats and recognition of prior learning, microcredentials risk serving already highly educated professionals while leaving low-skilled workers, migrants, workers in SMEs and people in transition behind.

Recommendations

Building on these findings, the following recommendations set out the practical steps needed to move from principle to implementation. They are addressed to policymakers, providers and social partners, and are designed to be actionable within existing European instruments while remaining specific to the renewable-energy sector:

- Adopt a renewable-energy sector reference specification for quality-assured microcredentials, aligned with the 2022 Council Recommendation, EQF/NQF principles and European Learning Model metadata.
- Make employer and social-partner co-design, assessment relevance and evidence of labour-market need visible quality criteria.
- Accelerate interoperable digital issuance, verification, wallets and registries using European Digital Credentials and compatible open standards.
- Create clear pathways for stackability, credit recognition and recognition of prior learning across VET, higher education and non-formal learning.
- Use sustainable public funding, individual learning entitlements and an annually updated evidence observatory to support inclusion, SMEs and continuous policy learning.

02.

Introduction

2. Introduction

This report presents EU-level policy recommendations for the integration of microcredentials in the renewable energy sector, developed as Deliverable 3.3 of the MiCRET project (Microcredentials for Renewable Energy Technicians), co-funded by the Erasmus+ Programme of the European Union. It is principally addressed to EU institutions, Member State authorities, national and regional qualifications and quality-assurance bodies, social partners, energy-sector organisations, VET and higher-education providers, and digital credential infrastructure operators.

The policy problem is twofold. First, renewable-energy deployment is changing occupational tasks faster than many conventional qualification cycles can be revised. Technicians increasingly work with smart assets, sensors, remote monitoring, data-rich maintenance, hybrid systems, cybersecurity risks and new safety requirements. Second, the learning needed to respond to these changes is distributed across formal, non-formal and workplace settings, while recognition practices remain fragmented. Skills may be acquired, but not made visible, portable or trusted.

MiCRET addresses this problem through policy experimentation focused on renewable energy technicians. The project does not treat microcredentials as a new label for every short course. It treats them as a policy and design mechanism for recognising assessed learning outcomes in smaller units that can be combined with qualifications, occupational standards and lifelong-learning pathways. This requires attention to the full chain of trust, which includes skills needs, learning outcomes, assessment, quality assurance, issuer authority, metadata, digital verification, recognition, and use.

The evidence context

The MiCRET evidence base combines sectoral skills intelligence and system-level analysis. The Skills Needs Analysis triangulates structured desk research, an EU-level online survey with 124 responses, and country- and EU-level qualitative research. It identifies recurring technical, digital, green and transversal skill needs and stresses that the findings are priority signals rather than statistically representative national rankings. The accompanying training-offer analysis maps 226 learning opportunities and examines where provision can be modularised, strengthened or aligned more closely with the twin transition.

The present deliverable builds on those earlier outputs but has a different purpose. It asks what EU and national policy should do to create the conditions in which trustworthy microcredentials can be designed, issued, recognised and used in renewable-energy labour markets. It therefore combines programme-level benchmarks with national ecosystem diagnostics and stakeholder validation.

Scope and interpretation

This section defines the boundaries of the analysis, setting out which roles, education systems, countries and policy dimensions the framework covers and how each should be understood. One caveat applies throughout: the country dashboards are AI-assisted syntheses of public sources, designed for validation and dialogue, and should not be read as definitive country assessments or league tables.

- Sector scope: renewable energy technicians and adjacent technical roles, with examples from wind, solar photovoltaic, grids, electric-vehicle infrastructure, hydrogen, digital twins, smart energy auditing and hybrid systems.
- System scope: VET, higher education, continuing education, professional and industry certification, active labour-market measures, and recognition of prior learning.
- Geographical scope: MiCRET priority countries and additional European and global benchmarks, as listed in the Microcredentials Thermometer.
- Policy scope: definitions, regulation, qualifications frameworks, quality assurance, public funding, ecosystem adoption, employer recognition, digital standards, interoperability, data portability, participation and market use.
- Evidence boundary: country dashboards are AI-assisted syntheses of public sources. They are designed for validation and dialogue and should not be read as definitive country assessments or league tables.

A working definition for this report

A microcredential is understood as the documented outcome of assessed learning in a limited volume, described through transparent learning outcomes and supporting metadata, and is capable of being used independently or combined with other learning. Its value depends on the credibility of the issuer, assessment and quality-assurance arrangements and on its legibility to education and labour-market actors. This working definition follows the European approach while preserving national diversity in terminology and legal form.

03.

Methodology

3. Methodology

The recommendations in this report are derived from a three-stream evidence process developed and implemented across the MiCRET consortium. Each stream captures a distinct analytical level: the design and quality of actual schemes; the maturity of national systems; and the interpretations, corrections and priorities expressed by stakeholders. Evidence was synthesised thematically, with greater weight given to points supported by more than one stream.

3.1 Stream 1 - The MiCRET Inspiring Catalogue

The first evidence stream draws on the MiCRET Catalogue of Recommended, Inspiring Microcredential Schemes. The Catalogue uses a three-phase arc: collection of global and sectoral exemplars; benchmarking against a common quality framework; and translation of the findings into practical renewable-energy applications. It moves from observing current practice to identifying the design conditions that can support credible deployment.

Twelve exemplar models were reviewed across national alliances, industry associations, specialised providers and digital-green agencies. The analytical focus included granularity, learning outcomes, assessment, sector relevance, EQF/NQF or ECTS alignment, stackability, employer participation, quality assurance, digital verification and compatibility with the European Learning Model. The Catalogue then ideated ten sector applications ranging from offshore wind safety to hydrogen systems safety.

For this deliverable, the Catalogue was not treated as a simple list of courses. It was used to identify recurring quality markers, implementation gaps and the conditions under which a short learning offer becomes a trusted microcredential rather than an unstructured certificate of attendance.

3.2 Stream 2 - The MiCRET Microcredentials Thermometer

The second evidence stream uses the MiCRET Microcredentials Thermometer. The Thermometer is a lightweight observatory and benchmarking instrument designed to balance credibility, comparability and simplicity. It combines structured desk research with expert validation and produces a country fact sheet and temperature score. Its purpose is to stimulate dialogue, identify gaps and accelerate action - not to rank countries.

The framework assesses four dimensions. Each dimension has a different policy function and a defined set of indicators. Quantitative indicators are used where public data are available; qualitative indicators are scored through structured evidence and expert interpretation. Where usage data are weak, proxies are explicitly accepted rather than converted into false precision.

Dimension	Weight	Criteria and indicators	Analytical purpose
1. Policy & Recognition	25%	National definition; legal or regulatory framework; integration into the national qualifications framework; public funding schemes; national strategy or roadmap.	Tests whether microcredentials have a credible policy home and can connect with existing recognition systems.
2. Ecosystem & Adoption	25%	Number of issuing institutions; major national initiatives; industry involvement; active platforms; public-private partnerships.	Tests whether provision is moving beyond policy statements into institutional and sectoral practice.
3. Infrastructure & Standards	20%	Use of digital credential standards, national infrastructure, alignment with EU frameworks, verification systems, and data portability.	Tests interoperability, trust, portability and the ability to verify credentials across systems.
4. Usage & Market Penetration	30%	Annual credentials issued; learner participation; employer recognition; sector penetration; three-to-five-year growth trend.	Tests real uptake and whether credentials have value in learning and employment decisions.

Scoring and interpretation

The composite scale is 0–100: Cold (0–25), Warming (26–50), Active (51–75) and Hot (76–100). The category is a communication device, not a judgement on education-system quality. A country with a strong traditional qualification system may obtain a lower microcredential score because it deliberately gives priority to full qualifications. Conversely, a high score can reflect intensive public investment but still conceal weaknesses in employer awareness, long-term funding or cross-institutional recognition.

Data collection and validation

- Primary sources: government and ministry websites, legislation portals, qualifications and quality-assurance agencies, EU and OECD portals, and major national or institutional platforms.
- Secondary sources: research papers, sector studies, industry associations, project reports and published evaluations.
- Light-touch expert input: three to five stakeholder interviews per country, using the same four-dimension question framework.
- Output: a one-to-two-page country fact sheet with score, highlights, quick snapshot, dimension scores, gaps and strategic opportunities.
- Validation rule: public consultation and national stakeholder feedback are used to correct, qualify or contextualise the initial desk-based dashboard.

Interpretation safeguard

The Microcredentials Thermometer website explicitly states that dashboard data are AI-generated from publicly available sources and constitute a starting point for stakeholder validation rather than a definitive or exhaustive assessment. This report preserves that limitation. Scores organise the evidence; recommendations derive from convergent patterns rather than from score averages alone.

The Thermometer currently publishes sixteen country dashboards, structured as European reports (Belgium, Estonia, France, Germany, Greece, Ireland, Italy, Latvia, the Netherlands, and Portugal) and global reports (Australia, Egypt, Kenya, Namibia, New Zealand, and Tunisia). Coverage expands organically and on an ongoing basis, with further countries added over time. Dashboards for countries consulted most recently (Greece, Latvia, and Namibia) remain provisional pending validation in August 2026.

3.3 Stream 3 - National Stakeholder Perspectives

The third stream combines individual bilateral consultations and public online consultation. The bilateral approach asked partner countries to contact three to five national stakeholders - ministries, qualifications or quality-assurance agencies, regional authorities, employers, social partners and education providers - and to share the relevant Thermometer report before the conversation. Interviews followed the four-dimension framework, requested supporting laws, strategies, statistics, platform data or studies, and were summarised in a common evidence sheet.

The structured feedback document records both country-specific findings and sector-level implications. It is especially valuable where formal policy indicators do not capture how recognition works in practice. For example, Dutch stakeholders questioned an overly formal reading of recognition and emphasised labour-market value, transparent assessment and metadata. Italian stakeholders stressed regional competence, integration with active labour-market measures and the risks created by fragmented terminology and governance.

Public consultation was organised through a sequence of 90-minute MiCRET webinars. The June webinar, held on 19 June 2026, focused on Estonia and Italy. The July webinar, held on 10 July 2026, focused on France, The Netherlands and Portugal. Each event combined country presentations, questions and answers and a moderated cross-country panel. The August webinar, planned for 28 August 2026, will focus on Greece, Latvia and Namibia and is therefore included in this report as a planned evidence-gathering step rather than as completed consultation evidence.

Date	Countries	Status	Primary consultation focus
19 June 2026	Estonia, Italy	Completed	Country validation; regulation and quality assurance; regional governance; interoperability; inclusion.
10 July 2026	France; The Netherlands, Portugal	Completed	Regulatory density and simplicity; national pilots; labour-market relevance; stackability; digital records; terminology.
28 August 2026	Greece; Latvia; Namibia	Planned	Policy, recognition, adoption and future challenges; validation of country dashboards and emerging priorities.

Audio and video recordings and the supplied VTT transcripts were reviewed for attributable messages. Where a speaker was listed on an event page but no distinct intervention could be identified in the supplied transcript, the report records the person as a listed speaker without inventing a position or message.

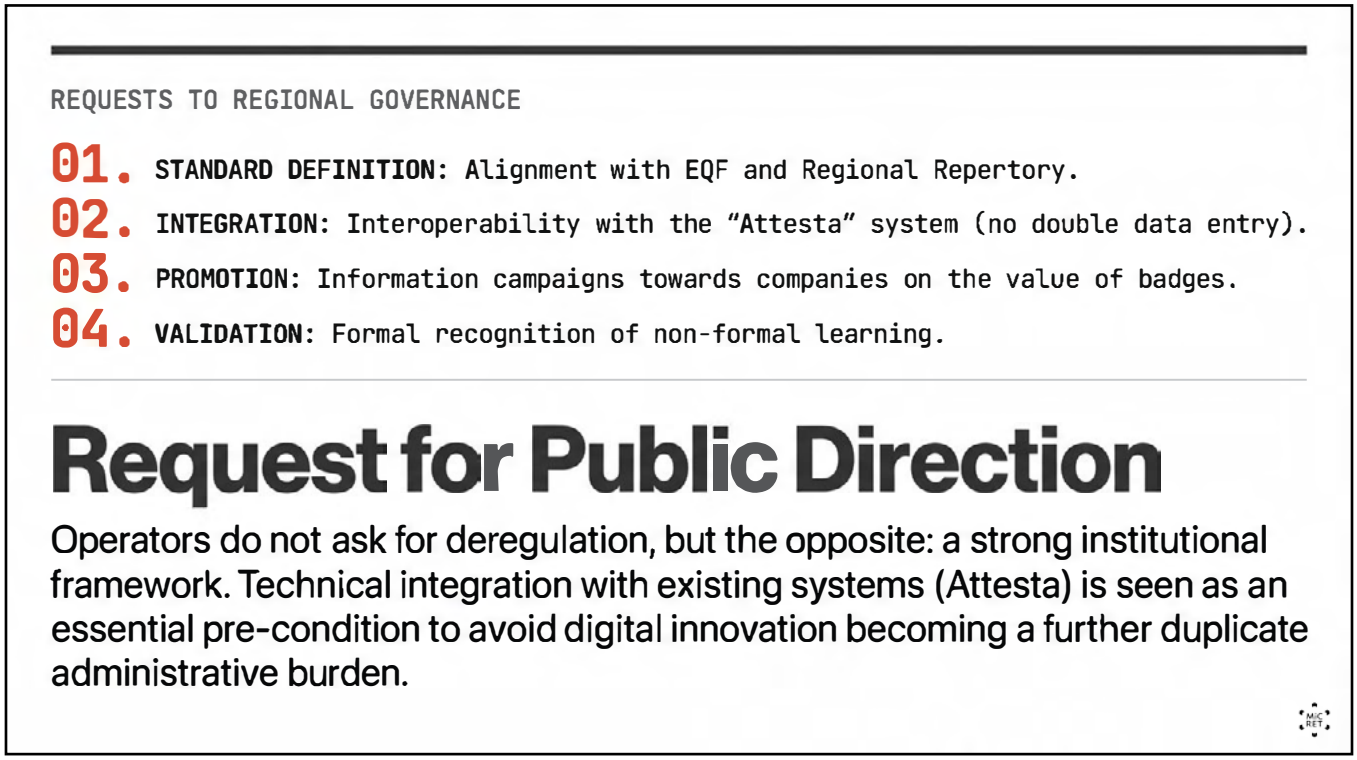
Piedmont Region Survey

In cooperation with the Piedmont Regional Authority, MiCRET implemented a pilot regional consultation to assess the use, maturity and perceived value of digital credentials and microcredentials. A concise online survey was distributed across the regional vocational education and training ecosystem, collecting information on the tools and platforms used, application purposes, perceived benefits, barriers and expectations for institutional recognition.

The analysis covered 71 unique respondents, predominantly VET providers, and also included companies, an ITS Academy, and representatives from public, consultancy, and third-sector organisations. The results show an emerging but still uneven ecosystem: 41% of respondents had used digital credentialing tools during the previous three years, while 59% continued to rely mainly on traditional methods. Significantly, 75% of non-users expressed an interest in receiving further information on MiCRET, indicating that limited adoption reflects a lack of guidance and enabling conditions rather than a lack of demand.

Stakeholders recognised the potential of microcredentials to make non-formal and transversal skills visible, support flexible upskilling pathways, improve verification and reduce administrative burdens. At the same time, they highlighted fragmented technologies, insufficient common standards, implementation costs, the digital divide and the risk of issuing credentials with limited labour-market value. The main

policy message is therefore the need for a shared regional framework combining clear definitions, quality assurance, interoperability with existing systems, employer awareness and mechanisms for validating non-formal learning. Building on this experience, the MiCRET partnership is willing to replicate and further develop the consultation in cooperation with other regional and national authorities



3.4 Synthesis Approach

Evidence was synthesised thematically rather than converted into a country ranking. The analysis followed four steps:

1. Extract quality markers and implementation gaps from the Catalogue.
2. Map recurring strengths and weaknesses across the four Thermometer dimensions and the 16 country reports.
3. Identify stakeholder statements that confirm, challenge or refine the desk-based interpretation.
4. Formulate recommendations only where the problem and the proposed policy response are supported by at least two evidence streams, or where a single stream provides unusually strong operational evidence.

The synthesis also distinguishes descriptive evidence from policy inference. Country reports describe national initiatives and scores. Webinar and consultation evidence explains how actors understand the barriers. The recommendations are the authors' synthesis of that evidence and are presented as proposed EU-level actions, not as existing commitments by institutions or Member States.

Treatment of discrepancies

The report treats source discrepancies as informative rather than as errors to be reconciled. Where sources reflect different dates or scopes, both are retained with their provenance. For Estonia, the narrative report records more than 280 registered microcredential and micro-degree programmes, while the June 2026 webinar update cited approximately 450 approved programmes - a difference that reflects the pace at which national provision is expanding, captured at two points in time. Preserving both figures, rather than collapsing them into a single total, keeps the evidence traceable and current.

04.

Evidence Base

4. Evidence Base

This section presents the principal findings from the three evidence streams. It first identifies design-level lessons from the Catalogue, then reviews the country dashboards in the requested order, and finally consolidates the named stakeholder perspectives from the structured consultation evidence and webinar recordings.

4.1 The MiCRET Inspiring Catalogue

Scope and benchmark set

The Catalogue benchmarked twelve global exemplars and reference models. These cover national coordination, industry certification, specialised training, digital-green frameworks and metadata standards. Together, they show that microcredential quality cannot be reduced to course duration or badge technology; it emerges from the alignment of sector demand, learning design, assessment, recognition and digital trust.

ID	Exemplar	Model	Principal lesson for MiCRET
G-01	American Clean Power	Industry association	Sector trust and employer relevance.
G-02	Global Wind Organisation / WINDA	Industry standard and registry	Portable safety standards and verified training records.
G-03	MicroCreds.ie	National alliance	National coordination, ECTS/NFQ alignment and a trusted discovery portal.
G-04	TAFE NSW	Public VET provider	Short applied provision connected to occupational needs.
G-05	Solar Energy International	Specialised provider	Granular photovoltaic learning and practical assessment.
G-06	Fraunhofer Academy	Applied research and continuing education	Advanced technical specialisation and industry credibility.
G-07	Greentech Skillnet	Employer-led network	Enterprise co-design and targeted green upskilling.
G-08	ENISA	EU digital agency	Cybersecurity competence reference for critical systems.
G-09	AVERE	European electromobility network	Electric mobility and infrastructure competence signals.
G-10	SolarPower Europe	European sector association	Industry needs and solar workforce relevance.
G-11	Irish Universities Association / MicroCreds metadata model	National metadata model	Common descriptors, comparability and stackability.
G-12	DigComp	European competence framework	Common language for digital competence integration.

Benchmarking results

The Catalogue reports a significant digital-green trust gap. Only around 30% of surveyed schemes met the full set of 2026 trust markers used in the audit: machine-readable metadata, industry co-design and ECTS alignment. National alliances and digital-green agencies performed strongly in the benchmark, while sector associations were often excellent regarding the labour-market relevance but less consistent in formal learning design and metadata. Specialised providers showed strong technical granularity yet varied in portability and recognition.

- **Granularity**: short units should address a coherent workplace competence rather than arbitrarily dividing a long course.
- **Assessment**: evidence of competence matters more than attendance. Practical tasks, simulations, workplace evidence and verified performance are preferred.
- **Portability**: level, workload, learning outcomes and assessment information must be visible and interpretable outside the issuing organisation.
- **Quality assurance**: issuer governance, assessment validity, review cycles and external or sectoral validation are central to trust.
- **Digital trust**: credentials should be machine-readable, verifiable, tamper-evident and capable of being shared by the learner.
- **Employer co-design**: sector actors should shape the competence target, assessment context and recognition use case.

Ten renewable-energy applications

No.	Application	Indicative level	Policy and design relevance
1	Offshore Wind Safety & Digital Verification	EQF 4	Safety evidence, portable verification and rapid site-readiness.
2	PV System Design & Technical Scaffolding	EQF 5	Design competence organised in stackable technical units.
3	Grid Cybersecurity & Data Resilience	EQF 4	Cyber hygiene, risk awareness and resilient operation of decentralised grids.
4	EV Infrastructure Maintenance	EQF 4	Installation, diagnostics, maintenance and safety for charging infrastructure.
5	Digital Twin & AI Asset Management	EQF 5	Use of digital models, predictive maintenance and data-supported decisions.
6	Hybrid Systems Integration	EQF 5	Integration of solar, wind, storage and smart controls.
7	PV Solar System Design	EQF 5	System sizing, configuration, compliance and performance.
8	Smart Energy Auditing	EQF 6	Data-led energy analysis, reporting and improvement planning.
9	Wind Turbine O&M	EQF 4	Operational inspection, maintenance, diagnostics and safety.
10	Hydrogen Systems Safety	EQF 4–5	Hazard control, procedures and evidence for emerging hydrogen systems.

The applications are not presented as a finished European curriculum. They demonstrate how broad sector needs can be translated into bounded, assessable and digitally verifiable competence units. The policy implication is that EU support should focus on reusable descriptors and trust mechanisms, while leaving providers and sector partners room to adapt content and assessment to technologies, national regulation and occupational context.

4.2 The MiCRET Microcredentials Thermometer

At the time of writing, the MiCRET website publishes ten European country dashboards and six dashboards from outside Europe. The following review is presented in sequence: first the MiCRET partner countries, then other European countries, and finally countries outside of Europe. The score is retained as a navigation aid, while the analysis prioritises policy features, initiatives, gaps and transferable lessons.

MiCRET Partner Countries

The MiCRET partner countries are the constituent partners for each country represented in the project. Each is responsible for specific work streams and provides access to the networks, dialogue, and stakeholder engagement that underpin the project's work. Their contribution spans the desk research, field research, ideation, and composition of this report.

The information for each country is sourced directly and available on the Microcredentials Thermometer page.

Belgium - 71/100 (Active)

71/100	Policy	Ecosystem	Infrastructure	Usage
ACTIVE	20/25	20/25	15/20	18/30

Belgium combines bottom-up institutional innovation with substantial public investment. The Voorsprongfonds allocated €60 million in Flanders to accelerate flexible and online learning, while university collaborations such as Nova Academy and Continue provide shared lifelong-learning portals. The LED learning-experience database offers a strong infrastructure base. The principal gaps are the absence of a uniform legal definition across communities, uneven dedicated funding, and the need to make the microcredential label and employer use more visible.

- High institutional autonomy drives bottom-up innovation: Higher Education Institutions (HEIs) across Belgium are developing frameworks and collaborative platforms aligned with the 2022 EU Council Recommendation, despite the absence of a strict legal framework.
- Significant public funding stimuli: The Flemish government allocated €60 million through the "Voorsprongfonds" (Higher Education Advancement Fund) to accelerate flexible, online learning and microcredentials across colleges and universities.

- Opportunity: Formalising Framework Agreements: Finalising the draft framework co-created by Flemish HEIs will establish common ground on ECTS ranges (3–20 ECTS), nomenclature, and quality assurance, boosting transparency across the sector.

France - 70/100 (Active)

70/100	Policy	Ecosystem	Infrastructure	Usage
ACTIVE	18/25	18/25	16/20	18/30

France has an advanced functional equivalent in the legally recognised blocs de compétences, supported by France Compétences, the RNCP and Répertoire spécifique. The Compte personnel de formation gives individuals significant purchasing power, while FUN MOOC, BCdiploma and the University of Lille's large-scale digital diploma issuance demonstrate digital capacity. The system's strength is also a source of complexity: strict registration rules, overlapping terminology and uneven sector acceptance can make navigation difficult for learners and employers.

- Strong regulatory backbone but terminology debate: While the specific term "microcredential" (often translated as micro-certifications) lacks a unified official definition, France has a highly advanced, legally embedded equivalent: "blocs de compétences" (blocks of competences), managed by France Compétences.
- Massive state funding tied to strict regulation: Through the CPF (Compte personnel de formation), individuals receive € 500–€ 800 annually for training, but funds can only be used for credentials registered in the strict National Qualifications Catalogues (RNCP and RS).
- Opportunity: Competences Passport (Passeport de compétences): Integrating microcredentials and Open Badges into the upcoming national Competences Passport will give learners a centralised, state-backed digital wallet for all lifelong learning.

Germany - 42/100 (Warming)

42/100	Policy	Ecosystem	Infrastructure	Usage
WARMING	10/25	13/25	9/20	10/30

Germany's trusted dual VET system shapes a cautious approach: microcredentials are generally viewed as supplements to complete occupational qualifications. Adoption is accelerating in higher education and digital projects, with initiatives such as ValiKom, INVITE, HRK MODUS, MOOChub and Mein Bildungsraum. The major gap is systemic coherence - there is no final national definition, no general DQR link for non-formal credentials and limited interoperable issuance across the many providers and projects.

- Strong reliance on the Dual VET System: Employers and policymakers heavily favour holistic, formal qualifications. Microcredentials are considered a useful supplement but not a replacement for traditional degrees.
- Growing adoption in Higher Education (HE): Driven by internationalisation and European University Alliances, HE adoption is rising. A recent DAAD survey showed 35% of surveyed HEIs currently use microcredentials, up from 20% in the previous year.
- Opportunity: Higher Education & European Mobility: HEIs increasingly leverage microcredentials to attract non-traditional students, facilitate lifelong learning, and boost international mobility through European university alliances.

Greece - 43/100 (Warming)

43/100	Policy	Ecosystem	Infrastructure	Usage
WARMING	10/25	13/25	10/20	10/30

Greece is in a pre-regulatory but active experimentation phase. University KEDIVIM centres, Law 4957/2022, EOPPEP systems and DYPA Individual Skills Accounts create channels for short learning and certification; the accounts can fund training and certification for beneficiaries. Activity is substantial in green, digital, tourism, health and security fields, but the microcredential concept is not yet fully anchored in the Hellenic Qualifications Framework, employer recognition remains weak and platforms are fragmented.

- Pre-regulatory but developing stage: There is currently no standalone legal definition of microcredentials, but they are increasingly being recognised via lifelong learning units (KEDIVIM) within Higher Education Institutions under recent legislation (Law 4957/2022).
- Strong Lifelong Learning (LLL) Integration: Significant state and EU-funded activity is occurring through University KEDIVIMs and the introduction of "Individual Skills Accounts" by the Public Employment Service (DYPA).
- Opportunity: Individual Skills Accounts: Leveraging the newly launched, state-funded Individual Skills Accounts (funded up to €1,500 per citizen) to drive massive consumer demand for verifiable, high-quality microcredentials.

Source base: MiCRET Microcredentials Thermometer narrative report - Greece; current dashboard list on micret.eu.

Italy - 75/100 (Active)

75/100	Policy	Ecosystem	Infrastructure	Usage
ACTIVE	20/25	20/25	16/20	19/30

Italy combines formal framework progress with regional implementation complexity. The Italian Qualifications Framework includes microcredentials as “sub-articulation 0”, while PNRR investment supports Digital Education Hubs, including the EDUNEXT network of 35 universities. Bestr, EduOpen and myOpenBadge provide a mature digital ecosystem with blockchain experiments for verification. The challenge is to connect national definitions, regional competence systems, active labour-market measures and employer-facing recognition without creating competing labels

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- Formal integration of micro-credentials into the Italian National Qualifications Framework (NQF) as a specific sub-articulation (Level 0).
- Massive push for digital innovation via the National Recovery and Resilience Plan (PNRR), heavily funding Digital Education Hubs (DEHs) such as the EDUNEXT network comprising 35 universities.
- Opportunity: PNRR & Digital Education Hubs (DEHs): Leveraging the €36M creation of 3 Digital Education Hubs (like EDUNEXT, ALMA, and Edvance) to standardise micro-credentials, foster inter-university collaboration, and create flexible, digital-first learning pathways (e.g., the ECOBI model).

Portugal - 71/100 (Active)

71/100	Policy	Ecosystem	Infrastructure	Usage
ACTIVE	18/25	21/25	15/20	17/30

Portugal has used Recovery and Resilience Plan investment to scale short modular learning through Impulso Jovens STEAM and Impulso Adultos. The National Qualifications Catalogue contains thousands of Short-Term Training Units, and Qualifica Passport, SIGO and the planned Digital Skills Curriculum provide strong foundations for a national record and wallet. Employer co-design is a notable strength. Remaining issues include formal QNQ level assignment, consistent terminology across learner groups and sustainability after temporary programme funding.

- Massive push via EU Recovery and Resilience Plan (PRR) funding, which established initiatives like “Impulso Jovens STEAM” and “Impulso Adultos” to develop short, modular higher education courses in close cooperation with regional employers.
- High-level policy integration through Portugal’s National Roadmap 2024, which mandates the creation of a “Digital Skills Curriculum” on the gov.pt portal to serve as a national digital credential wallet.
- Opportunity: The gov.pt Integration: The launch of the “Digital Skills Curriculum” as a digital wallet on the main government portal provides a massive opportunity to standardise the verification and portability of microcredentials nationwide.

- **The Netherlands - 74/100 (Active)**

74/100	Policy	Ecosystem	Infrastructure	Usage
ACTIVE	16/25	23/25	17/20	18/30

The Netherlands has one of the strongest implementation ecosystems in the sample. Npuls, the national pilots and SURF Edubadges support shared quality arrangements and widespread participation by universities, universities of applied sciences and VET institutions. More than 1,500 microcredentials were issued during the higher-education pilot. Legal anchoring in the WHW and WEB remains incomplete, but stakeholders emphasise that visibility, labour-market recognition, level information and simple metadata are more urgent than creating a wholly new qualification category.

- A massive, collaborative national approach driven by the Npuls (National Growth Fund) programme, uniting Universities, Universities of Applied Sciences, and Vocational Education and Training (VET) schools.
- Strong, unified digital infrastructure through the SURF Edubadges platform, which centralises credential issuance for the tertiary sector.
- Opportunity: eduWallet Integration: Launching the digital education wallet (eduWallet) can massively enhance cross-border interoperability, user control, and seamless sharing with employers.

Source base: MiCRET Microcredentials Thermometer narrative report - The Netherlands; current dashboard list on micret.eu.

Other European countries

Extending the Thermometer to additional countries, both within and beyond the EU, brings clear benefits. A wider set of national cases enables mutual learning, allowing systems at different stages of development to draw on one another's approaches to regulation, quality assurance and implementation. Broader coverage strengthens the potential for policy influence, as comparison across diverse contexts provides an expanded evidence base for national and supranational decision-makers. Including non-EU countries enlarges the community dialogue, bringing new voices and models into the conversation and sustaining an ongoing, collaborative exchange that contributes to benchmarking practice across systems. It also supports the development of good practice in neighbouring regions and more widely, helping to shape a future in which micro-credentials enable genuine cross-border collaboration and portability. This diversity of perspective can inspire reforms, offering policymakers concrete examples of how comparable challenges have been addressed elsewhere.

Estonia - 87/100 (Hot)

87/100	Policy	Ecosystem	Infrastructure	Usage
HOT	24/25	23/25	18/20	22/30

Estonia provides a high-regulation, high-infrastructure model. Amendments to the Adult Education Act establish a defined volume, quality assessment by HAKA for eligible providers and registration in the EHIS system. The narrative report recorded more than 280 programmes, while the June webinar update referred to roughly 450 approved programmes, reflecting a rapidly evolving system. Strengths include strong lifelong-learning participation, national skills intelligence through OSKA and funding linked to quality; employer understanding and complete usage data still need development.

- Robust Legislative Framework: Estonia has established a highly regulated market through amendments to the Adult Education Act, which mandate rigorous curriculum group-based quality assessments by the Estonian Quality Agency for Education (HAKA) for any institution wishing to issue official micro-credentials.
- Centralised Digital Registry: To ensure transparency, cross-border recognition, and employer trust, all quality-assured micro-credential programmes and their corresponding certificates must be registered in the state-run Estonian Education Information System (EHIS).
- Opportunity: Integration with European Digital Wallets: Further integration of EHIS e-certificates with European tools (like Europass) and digital wallets can vastly improve cross-border verification, learner mobility, and stackability.

Ireland - 86/100 (Hot)

86/100	Policy	Ecosystem	Infrastructure	Usage
HOT	24/25	23/25	17/20	22/30

Ireland offers the clearest national coordination model in Europe. QQI and the National Framework of Qualifications support accredited minor, special-purpose and supplemental awards; the €14.3 million MicroCreds project, MicroCreds.ie and learner subsidies have enabled more than 600 microcredentials and over 20,000 learners. Regional Skills Fora and Skillnet Ireland embed enterprise participation. The next challenge is sustainable funding beyond pilots, broader HR recognition and seamless stacking across institutions.

- Ireland is the first European country to establish a coherent National Framework for quality-assured and accredited microcredentials.
- Massive state funding and collaboration through the Human Capital Initiative (HCI) and the €14.3 million MicroCreds project led by the Irish Universities Association (IUA).
- Opportunity: Expansion of Digital Wallets and LERs: Expanding the use of Verifiable Credentials (like Open Badges v3) and Learning and Employment Records (LERs) can make Irish microcredentials universally verifiable and interoperable across Europe.

Latvia - 67/100 (Active)

67/100	Policy	Ecosystem	Infrastructure	Usage
ACTIVE	18/25	19/25	13/20	17/30

Latvia is moving from policy design into funded implementation. Cabinet Order No. 502 supports a national higher-education pilot with €6.5 million annually from 2024 to 2026; the STARS platform supports individual learning accounts and training for 28,000 employed people. Riga Technical University and other HE and VET providers are piloting credentials, while DIScoPLAYER applies Open Badges. The main weaknesses are an academic–VET divide, partial LQF referencing, inconsistent quality assurance and low participation by SMEs.

- Latvia is actively transitioning microcredentials from conceptual policy to practical implementation, driven by significant state funding and international European projects.
- A major structural shift is underway via Cabinet of Ministers Order No. 502, allocating €6.5 million annually (2024–2026) to fund a national microcredentials pilot project across state applied sciences universities and colleges.
- Opportunity: Incorporate Unified Definitions into Legislation: The Ministry of Education and Science can introduce clear definitions into the Education Law and Adult Education Act, aligning the legal baseline with the 2022 EU Council Recommendation.

Countries outside Europe

Australia - 73/100 (Active)

73/100	Policy	Ecosystem	Infrastructure	Usage
ACTIVE	21/25	21/25	15/20	16/30

Australia was an early adopter of a National Microcredentials Framework and created the MicroCred Seeker marketplace with 49 higher-education providers. A federal $18.5 million pilot supported provision in national priority areas. The model demonstrates the value of a common information standard and discovery platform, but credentials remain outside the AQF, cross-provider credit is inconsistent and employer familiarity is reported as very low.

- Pioneering Framework: Early global adopter of a National Microcredentials Framework (2021) which established a national definition and critical information standards.
- Government-Backed Marketplace: Launch of the MicroCred Seeker platform, a national marketplace connecting learners, employers, and 49 higher education providers.
- Opportunity: AQF Reform Implementation: Formally adopting the 2019 AQF Review recommendations to integrate shorter-form credentials could officially legitimize the ecosystem and ensure seamless stackability.

Egypt - 71/100 (Active)

67/100	Policy	Ecosystem	Infrastructure	Usage
ACTIVE	21/25	19/25	15/20	16/30

Egypt's recent reforms have moved microcredentials into a competency-based higher-education and qualifications agenda. Ministerial and presidential instruments, NAQAAE's expanded NQF, the Egyptian Knowledge Bank, Digital Egypt Builders and the Applied Technology Schools network create scale and strong public-private involvement. The main risks are fragmented governance across ministries, uneven local employer trust, dependence on donor-supported infrastructure and competition with a large unregulated supplementary-education market.

- Policy & Regulatory Shift: The issuance of Ministerial Decree No. 592 of 2025 formally adopted the Reference Framework for Higher Education, officially moving the system toward Competency-Based Education (CBE) and integrating microcredentials into academic pathways.
- National Qualifications Framework (NQF) Expansion: In 2026, the National Authority for Quality Assurance and Accreditation of Education (NAQAAE) expanded the NQF to explicitly include microcredentials, mapping them from Level 1 to Level 7 as recognized "bridges of knowledge" for the labor market.
- Opportunity: Global Labor Mobility via BRICS: Egypt's integration into the BRICS Plus network and the adoption of the "BRICS Skills Passport" offer unprecedented cross-border portability, allowing credentials earned in Cairo to be recognized seamlessly in major global economies.

Kenya - 75/100 (Active)

75/100	Policy	Ecosystem	Infrastructure	Usage
ACTIVE	19/25	21/25	15/20	20/30

Kenya combines an emerging national framework with rapid modularisation of TVET. The National Micro-Credentials Framework was being prepared for approval and rollout in 2026, while enrolments from May 2025 moved to modular, competency-based curricula. Ajira Digital has reached more than 500,000 young people, and NAQIMS provides a qualifications infrastructure. Employer organisations and professional bodies are active, but full legal consolidation, portable digital standards and sustainable implementation are still in progress.

- Kenya is making significant strides by finalizing its National Micro-Credentials Framework, scheduled for approval in July 2026 and rollout in September 2026, in strategic partnership with the Kenya National Qualifications Authority (KNQA), the International Labour Organization (ILO), and the Commonwealth of Learning (COL).
- A major policy shift in the Technical and Vocational Education and Training (TVET) sector mandated that all enrolments from May 2025 follow modularized, competency-based curricula, effectively transforming traditional long-term programs into stackable "units of competency" that function as microcredentials.
- Opportunity: Formalizing the Informal Economy via RPL: Microcredentials provide the perfect mechanism to document and validate the skills of millions of Kenyans working in the informal "Jua Kali" sector. Expanding the Recognition of Prior Learning (RPL) system using verifiable microcredentials can formally integrate these workers into the national economy.

Namibia - 44/100 (Warming)

44/100	Policy	Ecosystem	Infrastructure	Usage
WARMING	12/25	12/25	8/20	12/30

Namibia is using microcredentials as a response to unemployment and emerging green-hydrogen and energy needs. Review of the NQA Act, the PoMiSA initiative, the VET levy and Employer Training Grant, and work by UNAM, NUST and the Power-to-X Skills Task Force provide a foundation. However, there is no unified legal definition, NQF integration remains incomplete, national digital infrastructure is limited and employer recognition is constrained by fragmented provision.

- Policy framework in transition: Namibia is currently undertaking a comprehensive review of the Namibia Qualifications Authority (NQA) Act of 1996 and associated regulations (expected completion 2025-2026) to formally establish a legal basis for microcredentials and flexible learning pathways.
- Driven by green energy and high unemployment: The adoption of microcredentials is a strategic response to a 33.4% unemployment rate (32% among graduates) and the need for rapid skills deployment in emerging sectors like green hydrogen and oil & gas.

- Opportunity: Leverage the Green Hydrogen Transition: Utilize the EU-Namibia Strategic Partnership and European funding to pilot a fully operational, quality-assured microcredential ecosystem for green energy skills, setting a benchmark for other sectors.

Source base: MiCRET Microcredentials Thermometer narrative report - Namibia; current dashboard list on micret.eu.

New Zealand - 79/100 (Active)

79/100	Policy	Ecosystem	Infrastructure	Usage
ACTIVE	22/25	20/25	15/20	22/30

New Zealand fully embeds microcredentials in the NZQCF at levels 1–10 and requires demonstrable industry, employer or community need for approval. NZQA applies a 5–40 credit range and maintains a national register; around 600 approved microcredentials were reported, with 185 new approvals in 2024. The system is a strong example of quality assurance and stackability, while funding caps, incomplete historic reporting and concerns about institutional reputation remain areas for policy attention.

- Integrated Framework: Micro-credentials are fully embedded into the newly updated New Zealand Qualifications and Credentials Framework (NZQCF) at Levels 1 to 10, enabling them to sit alongside traditional degrees and certificates.
- National Record Mandate: The New Zealand Government is advancing legislation (as of August 2025) to mandate that all micro-credential completions be reported to the New Zealand Qualifications Authority (NZQA), ensuring they are formally recognised on a learner's official 'Record of Achievement'.
- Opportunity: Stackability for Lifelong Learning: With the NZQCF explicitly allowing micro-credentials to be stacked into full qualifications, there is a massive opportunity to unbundle education for adult learners, allowing them to upskill efficiently without committing to multi-year degrees.

Tunisia - 44/100 (Warming)

44/100	Policy	Ecosystem	Infrastructure	Usage
WARMING	10/25	12/25	12/20	10/30

Tunisia has strong technical signals but weaker recognition architecture. The blockchain-based Unified Arab System for Diploma Authenticity Verification provides a trust layer, while the Virtual University of Tunis and ATFP lead modular and distance provision with more than 500 interactive modules. The absence of a common administrative definition, a standard credit conversion and explicit CNQ treatment limits portability and employer trust; public-private collaboration remains uneven.

- Strategy/Policy: Tunisia officially adopted the blockchain-based Unified Arab System for Diploma Authenticity Verification in 2025, providing a technical trust layer for digital credentials.

- Ecosystem adoption: The Virtual University of Tunis (UVT) and the Tunisian Agency for Vocational Training (ATFP) act as the primary vanguards for the adoption of modular content and microcredentials.
- Opportunity: Leverage Blockchain for Trust: The adoption of the Unified Arab System for Diploma Authenticity Verification provides the technical trust layer needed. Expanding this infrastructure can ensure microcredentials are secure, verifiable, and accepted by multiple employers and institutions globally.

Countries outside Europe

Theme	Comparative finding
Policy & recognition	Definitions and legal anchoring vary widely. Estonia, Ireland, Italy and New Zealand demonstrate explicit framework integration; France uses functional equivalents; Germany, Greece, Namibia and Tunisia remain more cautious or fragmented.
Ecosystem & adoption	Public investment and coordinated pilots can quickly scale supply, as seen in the Netherlands, Portugal, Latvia, Australia and Ireland. However, the number of courses is not a substitute for employer use or learner navigation.
Infrastructure & standards	National registries and common platforms - EHIS, MicroCreds.ie/IRQ, Edubadges, LED, Bestr, Qualifica Passport, and NZQA registers - strengthen trust. Data portability and cross-system interoperability remain uneven.
Usage & market penetration	This is the least consistently evidenced dimension. Many countries can count programmes but not issued credentials, learners, employment outcomes or employer recognition. The framework correctly gives this dimension the greatest weight and the greatest caution.
Funding and sustainability	Recovery funds, national pilots and subsidies have driven rapid growth, but several systems face a cliff when temporary funding ends. Long-term co-financing and SME access require explicit policy.
Inclusion	Individual learning accounts and targeted state programmes can widen access, but the evidence repeatedly calls for guidance, recognition of prior learning, accessible provision and support for low-skilled workers, migrants and people in small firms.

4.3 National Stakeholder Perspectives

Stakeholder evidence both validates and qualifies the dashboards. It shows that the same policy indicator can have different practical meanings: a legal definition may not create employer use, while a non-formal pilot may achieve strong labour-market recognition without formal NQF integration. The people and messages below are those explicitly recorded in the structured evidence sheet, webinar pages and supplied transcripts.

Bilateral and structured national consultations

Person	Role / country	Key message
Manuela Bonacci	INAPP, Italy	Regional experimentation may be a more effective pathway than a single national reform. Italy's use of "micro-qualifications" creates conceptual risk if microcredentials are treated only as fragments of full qualifications. Integration with existing digital and validation platforms is required.
Teresa Valentino	Regione Piemonte, Italy	Microcredentials should complement regional qualification frameworks and active labour-market measures rather than create a parallel system. The Piedmont survey provides a practical evidence base for adoption and platform choices.
Nadia Cordero	Regione Piemonte, Italy	Regional implementation should connect credentials with existing competence validation, training finance and labour-market instruments.
Tanja Derksen	Project manager, Dutch national microcredential pilots	Microcredentials are becoming structural lifelong-learning instruments. More than 1,000 have been developed; the main constraints are recognition, positioning and visibility, rather than legal anchoring alone. Edubadges and the shared quality framework are strong foundations, but level indications and employer awareness remain difficult.
Frederike Jansen	Programme Director, NCP NLQF, The Netherlands	Microcredentials should not automatically be equated with formal qualifications. Labour-market recognition, transparent level information and a clear relationship with the NLQF are more important than forcing every offer into the qualification structure.
Epke Vogel	NCP EQAVET Coordinator, The Netherlands	Trust should derive from transparent learning outcomes, valid assessment and quality assurance. ELM, EQAVET, NLQF and digital credentials can support reliability, while simplicity and recognition should be prioritised over new regulation for its own sake.

The Dutch evidence sheet adds a policy distinction that is central to this deliverable: formal recognition, labour-market recognition, level recognition and digital recognition are related but not identical. It also recommends positioning microcredentials as complements to qualifications rather than as "micro-qualifications", thereby strengthening employer ownership and improving interoperability through ELM, European Digital Credentials and learner wallets.

June 2026 webinar - Estonia and Italy

Person	Role / country	Key message
Triin Tamm	Quality Assessment Manager in Continuing Education, HAKA	Estonia's amended Adult Education Act created a defined 5–30 credit-point range (one credit point corresponding to 26 learner hours), HAKA quality assessment for eligible providers and registration in EHIS. Formal providers avoid duplicate assessment where existing rights apply. The June update cited roughly 450 approved programmes, while complete learner data were still being developed. State programmes support low-skilled and unemployed learners, but employer recognition requires ongoing work.
Manuela Bonacci	Senior Researcher, INAPP	Italy's regional and sectoral governance makes it difficult to develop a single concept. Policy requires a shared language for learning outcomes, credible quality assurance, real granularity, interoperable wallets, and learner-centred pathways. Regions should be engines of experimentation, linked to active labour-market policies. Guidance is necessary to prevent exclusion of low-skilled learners.
Oonagh McGirr	Director, WAM Foundation	Facilitated the policy dialogue and emphasised the Thermometer as a validation tool rather than a definitive ranking.
Stefano Tirati	CEO, Learningdigital	Presented the MiCRET approach and moderated the cross-country discussion, highlighting the need to keep the learner at the centre and to use a common skills language such as ESCO without suppressing the national context.

July 2026 webinar - France, The Netherlands and Portugal

Person	Role / country	Key message / contribution
Alex Lenoir	Director of European Cooperation, AFPA	France's ecosystem is dense but not always coherent. CPF provides learner agency, yet RNCP/RS eligibility can create bottlenecks and market gaming. Social partners are essential to quality and relevance; the Passeport de compétences can become a trusted digital career record. Terminology and interoperability need simplification.
Ana Barroso	National Institute for Education, Quality and Evaluation (EDUQA), Portugal	Portugal is investing across higher education, VET and adult learning. Employers co-design provisions, learning outcomes and stackability to support progression, and short and medium pathways cover diverse target groups, including migrants. Examples include cybersecurity, data, programming, hydrogen and renewable energy. Different national terms should be made legible rather than artificially homogenised.
Patrick Leushuis	Dutch National Working Group on Microcredentials / Ministry of Education	The dashboard reflects public pilots but not the full private and social-partner ecosystem. Policy should be evidence-led and evaluate labour-market relevance, transferability, exam-committee acceptance, metadata, RPL and the formal/non-formal boundary. A single quality standard is needed, along with integration with education, labour-market and HR policy.
Pauline van den Bosch	VET Specialist, CINOP	Thousands of microcredentials already exist regardless of legal terminology. Their legitimacy comes from the value they provide to individuals and employers. Flexibility and speed are strengths, but shared reference points for quality and recognition remain necessary; no single model will fit all national and sectoral contexts.
Matthieu Merciecca	French Ministry of Education / Campus des métiers et des qualifications	Due to institutional commitments, I did not take part in the webinar.
Oonagh McGirr; Stefano Tirati	WAM Foundation: Learning Digital	Hosted and moderated the webinar, connecting national observations with the four Thermometer dimensions and the policy implications for trust, recognition and adoption.

August 2026 webinar - planned speakers and evidence to be added

Person	Role	Status
Olga Kafetzopoulou	General Secretary for VET & LLL, Greek Ministry of Education, Religious Affairs & Sports	
Rūta Gintaute-Marihina	Director	
Mercy Situmbeko	Certified Performance Technologist, leadership coach and author	
Oonagh McGirr	Director, WAM Foundation	
Stefano Tirati	CEO, Learningdigital	

Convergent stakeholder messages

- Recognition should be functionally differentiated: formal, level, labour-market and digital recognition should be described separately.
- Shared quality criteria are needed, but national policy should avoid a one-size-fits-all legal model.
- Employer and social-partner involvement should start with skills intelligence and co-design and continue through assessment and use in recruitment or progression.
- Digital credentials should integrate with existing public infrastructure, learner records, wallets and European standards instead of creating isolated platforms.
- Terminology should be clear enough for learners and employers, while allowing national equivalents such as competence units, blocks of competence and short training units.
- Regional and sectoral experimentation can be more agile than central reform, provided common trust and portability principles are maintained.
- Guidance and targeted finance are essential for inclusion; flexibility alone does not guarantee equitable participation.

05.

Findings

5. Findings

The three evidence streams converge on a coherent policy proposition: Europe does not primarily need more isolated short courses. It needs a trusted architecture that allows high-quality, sector-relevant learning to be recognised in smaller units and used across education, employment and mobility contexts. The following findings distinguish exemplary practice from the structural gaps that currently limit scale.

5.1 What Good Looks Like

Quality marker	What it means in practice
A bounded competence target	The credential addresses a coherent task or cluster of learning outcomes that can be understood independently and related to a renewable-energy role.
Evidence-based assessment	Achievement is demonstrated through practical evidence, simulations, workplace outputs, verified performance or other valid assessments - not attendance alone.
Transparent level and workload	The credential states expected workload, level or complexity, learning outcomes, assessment method, issuer, quality assurance and validity information.
Employer and social-partner co-design	Industry contributes to identifying needs, shaping outcomes, validating assessments and recognising credentials in recruitment, deployment or progression.
Stackability and progression	The unit can be combined with other learning, recognised through RPL or credit, and connected to a larger qualification or occupational pathway where appropriate.
Interoperable digital issuance	The credential is machine-readable, verifiable and portable, with learner-controlled sharing and metadata that are compatible with European Digital Credentials and open standards.
Inclusive delivery	Workers, jobseekers, migrants and people in SMEs can access learning, with guidance, accessible formats and finance supporting them.
Review and lifecycle management	The competence target, evidence requirements and metadata are reviewed as technology, regulation and occupational practices change.

The strongest national examples combine several of these markers rather than relying on a single reform. Ireland links national coordination, accreditation, a discovery portal and employer engagement. Estonia links legislation, quality assessment and a central registry. The Netherlands combines a shared quality framework with Edubadges and large-scale pilots. New Zealand integrates microcredentials into its qualifications framework and requires evidence of industry or community need. The Global Wind Organisation demonstrates how industry standards and a trusted registry can create labour-market portability even outside conventional academic credit structures.

5.2 Where the Gaps Lie

Gap	Evidence-based interpretation
Conceptual and legal fragmentation	Different terms - microcredentials, micro-certifications, micro-qualifications, blocks of competence, units of competence, and short training units - are not consistently mapped. This creates confusion without necessarily reflecting substantive design differences.
Over-formalisation or under-formalisation	Some systems risk forcing all microcredentials into full qualification logic; others allow unregulated short certificates with little assessment or quality assurance. Both extremes weaken trust.
Weak employer recognition	Employers may co-design pilot courses but still fail to use credentials in hiring, deployment or progression. HR systems and collective agreements often lag behind provision.
Inconsistent stackability	Internal stacking may work within one institution, while transfer across institutions, sectors or countries remains case-by-case. RPL and exam-committee processes are often unclear.
Metadata and interoperability gaps	Credentials can remain trapped in institutional platforms, use inconsistent descriptors or lack level, assessment, evidence and verification data.
Insufficient outcome data	Systems count programmes more readily than completions, learner profiles, employer use, or wage and mobility effects. Usage and market penetration therefore remain the weakest evidence dimension.
Temporary funding dependency	Recovery funds and pilots have enabled rapid growth, but long-term finance, co-investment and cost-sharing are often unresolved.
Unequal access	Working adults in SMEs, low-skilled workers, migrants, rural learners and unemployed people may face time, cost, language, digital-access and guidance barriers.
Sectoral digital-green gap	Many offers remain strongest in mechanical or installation content, while they are weaker in data literacy, cybersecurity, smart systems, AI-supported maintenance, and lifecycle/ circularity competence.

5.3 What the Evidence Converges On

Trust must be designed, not assumed.
Catalogue benchmarks show the necessary quality markers; country reports show the importance of registries and standards; stakeholders emphasise transparent outcomes, assessment and QA.

Recognition must be plural and explicit.
The Netherlands and France illustrate why formal status, level information, employer value and digital verification should be reported separately. A single "recognised / not recognised" indicator is insufficient.

Sector relevance requires shared ownership.
The strongest applications and country initiatives use employer co-design, skills intelligence, sector bodies and social partners. This is particularly important in safety-critical renewable-energy work.

Interoperability is policy infrastructure.
ELM-compatible metadata, European Digital Credentials, Open Badges and learner wallets are not cosmetic features. They allow a credential to travel and be verified beyond the issuer.

Stackability needs rules and institutional processes.
Credits or level references alone do not guarantee progression. Admission, RPL, exam committees, awarding authority and recognition decisions require transparent procedures.

Pilots need a route to system adoption.
Many countries have strong projects but no sustainable funding or legal path after the pilot. Policy experimentation should include plans for scale, governance and maintenance from the outset.

Inclusion must be measured.
Participation counts should be disaggregated and linked to guidance, funding and employment outcomes. A large catalogue does not show whether the people most exposed to transition can benefit.

06.

Policy Recommendations

6. Policy Recommendations

The following recommendations are addressed primarily to the European Commission, Member States, national and regional qualifications and quality-assurance authorities, social partners, renewable-energy sector organisations and education providers. They are designed to strengthen mutual trust while preserving the flexibility that makes microcredentials useful.

R1

Adopt a European renewable-energy microcredential reference specification

- **Recommendation**: Develop a light, sector-specific reference specification that translates the 2022 Council Recommendation into an operational descriptor for renewable-energy technical learning. The minimum data should include issuer, title, learning outcomes, assessment and evidence, workload, level or complexity, quality-assurance basis, date and validity, stackability or recognition options, sector/occupation link, and digital verification information. The specification should recognise national equivalents and avoid requiring every microcredential to become a partial qualification.
- **Evidence**: Catalogue evidence shows that only a minority of schemes combine machine-readable metadata, industry co-design and ECTS alignment. Thermometer reports show inconsistent definitions and level treatment. Stakeholders repeatedly call for common language, transparency and a distinction between microcredentials and micro-qualifications.
- **Action required**: European Commission services, Cedefop, national authorities, sectoral social partners and renewable-energy bodies should co-develop and pilot the specification during 2027. By 2028, Erasmus+, Pact for Skills and sectoral training calls should require or strongly incentivise its use, with national mapping guidance for EQF/NQF and non-formal contexts.

R2

Make labour-market co-design and assessed competence visible quality requirements

- **Recommendation**: Require publicly supported renewable-energy microcredentials to document the labour-market need, the employer or social-partner contribution to design, the validity of assessment and the intended recognition use case. Sector engagement should cover skills intelligence, outcomes, assessment and review - not only endorsement. Safety-critical credentials should include practical evidence and, where relevant, supervised or workplace assessment.
- **Evidence**: GWO/WINDA, Greentech Skillnet, New Zealand and Irish models demonstrate the value of employer evidence and sector trust. France, Portugal, the Netherlands and Kenya show strong co-design practices. Stakeholders warn that supply can grow without corresponding HR recognition or use.
- **Action required**: Member States and managing authorities should integrate these criteria into public funding, quality assurance and procurement from 2027. Renewable-energy employers, social partners and sector associations should establish competence advisory panels and publish recognition statements that show where credentials are accepted in recruitment, site access, deployment or career progression.

R3

Build interoperable, learner-controlled digital credential infrastructure

- **Recommendation**: Issue credentials in machine-readable, verifiable formats compatible with the European Learning Model and European Digital Credentials, while supporting open standards such as Open Badges where appropriate. Connect institutional systems to trusted national or European registries and learner-controlled wallets or records. Avoid proprietary lock-in and require export, long-term verification, accessibility, data minimisation and cybersecurity.
- **Evidence**: The Thermometer identifies EHIS, Edubadges, LED, Bestr, MicroCreds.ie/IRQ, Qualifica Passport, NZQA registers and other national platforms as trust enablers. Catalogue benchmarks identify digital verification as a major gap. Webinar participants emphasise wallets, the Passeport de compétences, ELM and interoperability with existing systems.
- **Action required**: The European Commission and Member States should publish implementation profiles and conformance guidance during 2027, aligned with European Digital Credentials and emerging digital identity wallets. Publicly funded pilots should include an interoperability test, a learner export test and a cross-border verification scenario before scale-up.

R4

Create real stackability, credit and recognition pathways across VET, higher education and non-formal learning

- **Recommendation**: Define transparent rules for when microcredentials can be accumulated, transferred, recognised through RPL or accepted toward qualifications. Stackability should be based on learning outcomes, level, workload and assessment compatibility, not on a visual badge sequence alone. Systems should preserve credentials that are valuable as standalone labour-market instruments while offering progression where it is educationally and occupationally sound.
- **Evidence**: Ireland, New Zealand and the Netherlands provide useful models, while the country reports repeatedly identify cross-institutional transfer, NQF level assignment and formal/non-formal boundaries as gaps. Stakeholders call for exam-committee procedures, RPL, clear level information and recognition that not every microcredential must be a fragment of a qualification.
- **Action required**: By 2028, national authorities and provider networks should publish recognition protocols and model institutional regulations covering admission, RPL, credit transfer, expiration and recertification. EU mobility and cooperation programmes should test cross-border stacks in at least three renewable-energy pathways, including one VET-to-higher-education pathway and one employer-led route.

R5

Fund inclusive participation and establish an annual evidence and policy-learning cycle

- **Recommendation**: Combine individual learning entitlements, employer co-financing and targeted public support for workers in SMEs, low-skilled adults, migrants, unemployed people and regions undergoing energy transition. Funding should include guidance, assessment and credential issuance, not only course delivery. Maintain the Microcredentials Thermometer as an annually updated observatory, adding validated data on completions, learner profiles, employer use, progression and employment outcomes.
- **Evidence**: Country reports show rapid growth driven by temporary Recovery, pilot and subsidy funding and identify sustainability risks. Estonia, Greece, France and Portugal illustrate individual or state-supported learning accounts; Latvia and Namibia show the importance of reaching SMEs and emerging sectors. Stakeholders emphasise guidance and warn that flexible provision can still exclude those with fewer resources. Usage data are the least complete Thermometer dimension.
- **Action required**: Member States and regions should embed microcredential access in skills strategies and just-transition plans from 2027, with proportional support for SMEs and vulnerable groups. The MiCRET partnership and relevant EU agencies should publish a refined Thermometer methodology and annual update cycle, including a minimum outcome dataset and national stakeholder validation, starting with the 2027 edition.

Implementation principles

The following principles guide the design, governance and deployment of microcredentials across the partner countries. Taken together, they define the conditions under which microcredentials add value: rigorous where it matters, connected to existing qualifications and standards, and transparent to the learners and systems that rely on them. These are the key elements which should be taken into consideration:

- Proportionality: quality requirements should be rigorous but scaled to the risk, level and intended use of the credential.
- Complementarity: microcredentials should strengthen qualifications, occupational standards and continuing learning, rather than displacing them.
- Learner ownership: individuals should be able to access, understand, store, export and share their credentials and evidence.
- Sector safety: credentials linked to regulated or safety-critical tasks must not be used to bypass licensing, mandatory certification or supervised practice.
- Transparency: funding, quality assurance, level, assessment and recognition claims should be visible and verifiable.
- Policy learning: pilots should publish results, including negative findings, and state the route from experimentation to sustainable governance.

07.

Conclusion

7. Conclusion

The renewable-energy transition creates an urgent need for continuous, targeted and trusted skills development. Microcredentials can help technicians and adjacent professionals update their competence without waiting for complete programme redesign, and they can make workplace and non-formal learning more visible. Their value, however, is not automatic. A short course becomes a credible microcredential only when its outcomes are assessed, its quality and issuer are clear, its data are portable and employers or education institutions know how to use it.

The MiCRET evidence shows that Europe already has many of the necessary components: strong national pilots, industry certification systems, qualifications frameworks, digital credential platforms, sector associations, individual learning accounts and emerging learner wallets. The challenge is to connect these components without imposing a rigid uniform model. The appropriate EU role is to establish common trust and interoperability principles, support sectoral co-design, enable recognition and mobility, and ensure that public investment reaches workers and enterprises most exposed to the twin transition.

The policy recommendations therefore call for a renewable-energy reference specification, visible employer co-design and assessment, interoperable digital infrastructure, practical stackability and recognition procedures, and sustainable inclusive funding linked to an annual evidence cycle. Together, these actions would allow microcredentials to function as a reliable bridge between fast-changing technologies, established qualifications and the day-to-day competence needs of Europe's renewable-energy workforce.

The August 2026 webinar and subsequent national validation should be used to update the Greece, Latvia and Namibia evidence and to refine respective country analysis. More broadly, the Microcredentials Thermometer should remain iterative: its purpose is not to freeze countries into categories, but to make progress, gaps and policy choices visible enough to support informed action.

08.

Annexes

8. Annexes

Annex A: MiCRET Project and Consortium

MiCRET - Microcredentials for Renewable Energy Technicians (project reference 101195980) is a European policy experimentation project funded under Erasmus+ Priority 12, "Micro-credentials for the digital and green transition". It connects skills intelligence, analysis of existing training, microcredential design, national ecosystem diagnostics, stakeholder consultation and policy recommendations. The project aims to improve the responsiveness, quality, recognition and portability of learning for renewable-energy technicians.

Beneficiaries listed in the grant application

No.	Organisation	Country	Status
P1	Learningdigital	Italy	Coordinator
P2	Lombardini22	Italy	Beneficiary
P3	Fondazione ITS Energia Ambiente ed Edilizia Sostenibile (ITS Green)	Italy	Beneficiary
P4	Metropolitan College	Greece	Beneficiary
P5	PPC Inspectra	Greece	Beneficiary
P6	Ministry of Education, Religious Affairs and Sports	Greece	Beneficiary
P7	AZULchain	Portugal	Beneficiary
P8	ANESPO	Portugal	Beneficiary
P9	WAM Foundation	The Netherlands	Beneficiary
P10	CINOP B.V.	The Netherlands	Beneficiary
P11	SYNTRA WEST VZW	Belgium	Beneficiary
P12	e-BO Enterprises	Belgium	Beneficiary
P13	EfVET	Belgium / European	Beneficiary
P14	EVBB	Germany / European	Beneficiary
P15	BK Consult GmbH	Germany	Beneficiary

The policy evidence in this deliverable also includes France as a priority analytical country and uses additional European and global countries as comparators. National stakeholders, agencies and speakers participating in the Thermometer consultations contribute evidence but are not necessarily grant beneficiaries.

Core project evidence used in Deliverable 3.3

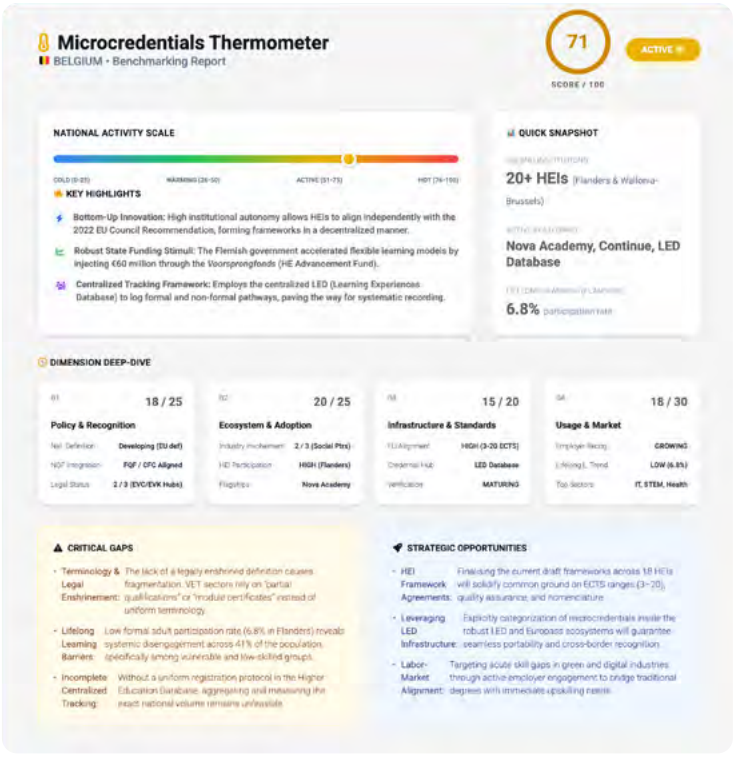
- D2.1 Skills Needs Analysis Report for the Renewable Energy Sector.
- D3.1 Digital and Green Skills Training Offerings Improvement Plan.
- D3.2 Catalogue of Recommended, Inspiring Microcredential Schemes.
- WP3.3 Guidelines for Consultations - Microcredentials Thermometer.
- WP3.3 Structured Feedback from National Stakeholders.
- Sixteen country narrative reports and dashboards.
- June and July 2026 webinar recordings and transcripts;
  August 2026 event plan and speaker list.
- Piedmont Digital Credential Adoption Analysis and related regional consultation evidence.

Annex B: Thermometer Country Dashboards

This annex presents the MiCRET Thermometer country dashboards, ordered as specified. Each dashboard is generated through a two-phase process. In the first phase, a provisional dashboard is produced by collecting and collating publicly available data against a defined set of questions, with AI supporting both the gathering and configuration of that data. In the second phase, the provisional dashboard is reviewed and updated following discussion with representatives from the country in question, yielding the final validated dashboard.

Annex B.1 - Belgium

Belgium combines bottom-up institutional innovation with substantial public investment. The Voorsprongfonds allocated €60 million in Flanders to accelerate flexible and online learning, while university collaborations such as Nova Academy and Continue provide shared lifelong-learning portals. The LED learning-experiences database offers a strong infrastructure base. The principal gaps are the absence of a uniform legal definition across communities, uneven dedicated funding, and the need to make the microcredential label and employer use more visible.

71/100	Policy	Ecosystem	Infrastructure	Usage
ACTIVE	18/25	20/25	15/20	18/30
Diagnostic snapshot				

Country **Belgium (Flanders & Wallonia-Brussels)**

Temperature Score **71/100 (Active 🟡)**

Key Highlights

- **High institutional autonomy drives bottom-up innovation**: Higher Education Institutions (HEIs) across Belgium are developing frameworks and collaborative platforms aligned with the 2022 EU Council Recommendation, despite the absence of a strict legal framework.

- **Significant public funding stimuli**: The Flemish government allocated €60 million through the "Voorsprongfonds" (Higher Education Advancement Fund) to accelerate flexible, online learning and microcredentials across colleges and universities.
- **Existing robust infrastructure**: Centralized systems like the LED (Learning Experiences Database) exist to track formal and informal learning, though uniform registration specifically under the "microcredential" label is currently being developed.

Snapshot

- **Issuing institutions**: 20+ (Including 5 universities and 13 universities of applied sciences in Flanders, alongside universities and adult education centres in the French-speaking community).
- **Platforms active**: Nova Academy (UGent, VUB, UAntwerpen), Continue (KU Leuven Association), and the LED database.
- **Annual credentials**: Currently integrated within broader lifelong learning and partial qualifications; a uniform tracking mechanism specifically for "microcredentials" is pending.

Dimension Scores

1. **POLICY & RECOGNITION (18/25)**
   - **National definition**: Developing. There is no official legal definition yet, but working documents in Flanders and advisory bodies in Wallonia-Brussels (ARES) explicitly use the EU definition and its standard elements.
   - **Legal/regulatory framework**: 2/3. Relies heavily on existing flexible higher education decrees and robust procedures for the Recognition of Prior Learning (EVC/EVK). ARES has requested modifications to the "Décret Paysage" to formally allow ECTS for microcredentials.
   - **Integration into NQF**: Yes. Learning outcomes for microcredentials are classified under the Flemish Qualifications Framework (FQF) and the Cadre francophone des certifications (CFC).
   - **Public funding schemes**: Yes. Heavily supported in Flanders via the Voorsprongfonds and ESF funding. Wallonia-Brussels notes a current absence of dedicated public funding for microcredentials.
   - **National strategy / roadmap**: Yes. Embedded in the "Action Plan on Lifelong Learning: Setting sail for a learning Flanders" driven by the Lifelong Learning Partnership.
2. **ECOSYSTEM & ADOPTION (20/25)**
   - **Number of issuing institutions**: High adoption across HEIs (universities and university colleges), Adult Education Centres (CVOs), and Public Employment Services like VDAB and Le Forem.
   - **Major national initiatives**: The Nova Academy and Continue platforms, InnoVET projects, and active working groups drafting framework agreements across 18 HEIs.

- **Industry involvement**: 2/3. Employers value microcredentials for specific competencies and upskilling, though the term is less recognized outside of higher education.
- **Platform presence**: Active. Portals like Nova Academy function as joint platforms bringing together lifelong learning opportunities from multiple universities.
- **Public-private partnerships**: Strong collaboration via the Lifelong Learning Partnership (involving social partners, education providers, and employment services).

3. **INFRASTRUCTURE & STANDARDS (15/20)**

- **Use of digital credential standards**: Developing. Platforms support the integration of European standards like Europass.
- **National credential infrastructure**: Strong. The LED (Leer- en ervaringsbewijzen) database tracks recognized formal, informal, and non-formal learning experiences for citizens.
- **Alignment with EU frameworks**: High. The emerging frameworks are explicitly aligned with the 2022 EU Council Recommendation on Micro-credentials, the EQF, and utilize the ECTS system (typically 3 to 20 ECTS).
- **Verification systems & Data portability**: Maturing. The LED database acts as a central hub where learners own and can share their credentials, though further integration of the "microcredential" label into the Higher Education Database is planned.

4. **USAGE & MARKET PENETRATION (18/30)**

- **Number of digital credentials issued annually**: Difficult to isolate. While thousands engage in partial qualifications and lifelong learning, a unified tracking system specifically for "microcredentials" is not yet active.
- **Learner participation rates**: Needs improvement. Flanders struggles with a low formal adult learning participation rate (6.8%) compared to the European average, highlighting cultural and institutional barriers to lifelong learning.
- **Employer recognition**: Growing. Employers highly value official credits and quality guarantees for reskilling, but broad awareness of the specific "microcredential" terminology remains limited.
- **Sector penetration**: Active in high-demand and priority areas such as IT, STEM, healthcare, and languages.
- **Growth trend (3–5 years)**: Accelerating rapidly. Propelled by the €60M Higher Education Advancement Fund and post-COVID digital action plans (Digisprong), HEIs are expanding their modular and flexible offerings significantly.

Gaps

- **Terminology & Legal Enshrinement**: The lack of a legally enshrined definition causes fragmentation. In the VET sector, terms like "partial qualifications" or "module certificates" are used instead of "microcredentials".
- **Learning Culture Barriers**: Belgium faces systemic challenges with a weak lifelong learning culture among adults; over 41% of the Flemish population is disengaged from lifelong learning, particularly vulnerable and lower-qualified groups.

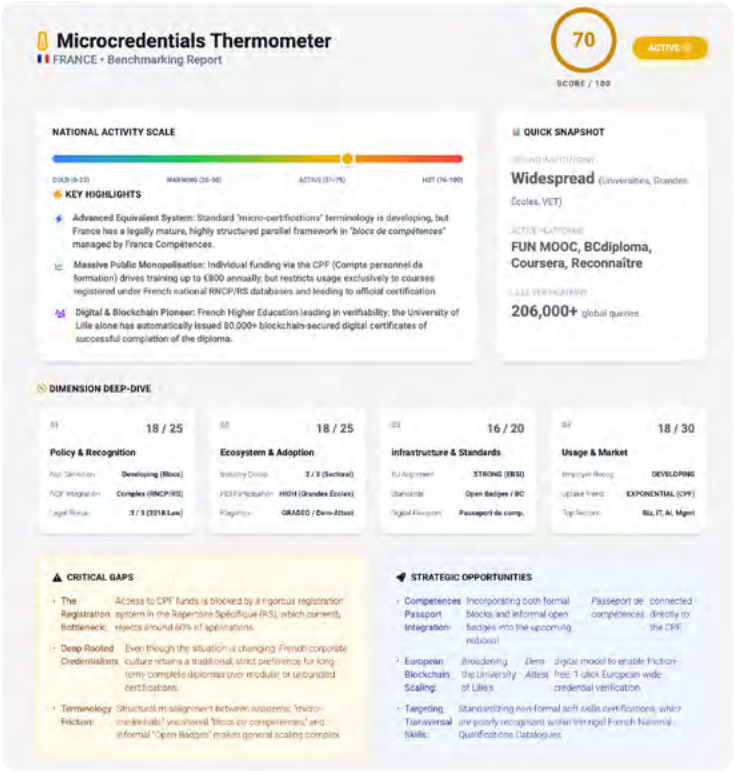
- **Data Tracking**: Without a uniform registration protocol in the Higher Education Database, it is currently impossible to accurately aggregate and measure the exact impact and issuance volume of microcredentials.

Opportunities

- **Formalising Framework Agreements**: Finalising the draft framework co-created by Flemish HEIs will establish common ground on ECTS ranges (3–20 ECTS), nomenclature, and quality assurance, boosting transparency across the sector.
- **Leveraging Existing Infrastructure**: Explicitly categorising microcredentials within the robust LED database and Europass will ensure seamless data portability, verifiability, and cross-border recognition.
- **Targeting Labor Shortages**: Using microcredentials to directly address the digital and green transitions (e.g., through STEM and IT initiatives) via deeper employer engagement can bridge the gap between traditional degrees and immediate labor market demands.

Annex B.2 - France

France has an advanced functional equivalent in the legally recognised blocs de compétences, supported by France Compétences, the RNCP and Répertoire spécifique. The Compte personnel de formation gives individuals significant purchasing power, while FUN MOOC, BCdiploma and the University of Lille's large-scale digital diploma issuance demonstrate digital capacity. The system's strength is also a source of complexity: strict registration rules, overlapping terminology and uneven sector acceptance can make navigation difficult for learners and employers.

70/100	Policy	Ecosystem	Infrastructure	Usage
ACTIVE	18/25	20/25	16/20	18/30
Diagnostic snapshot				

Country **France**

Temperature Score **70/100 (Active)**

Key Highlights

- **Strong regulatory backbone but terminology debate**: While the specific term "microcredential" (often translated as micro-certifications) lacks a unified official definition, France has a highly advanced, legally embedded equivalent: "blocs de compétences" (blocks of competences), managed by France Compétences.
- **Massive state funding tied to strict regulation**: Through the CPF (Compte personnel de formation), individuals receive €500–€800 annually for training, but funds can only be used for credentials registered in the strict National Qualifications Catalogues (RNCP and RS).
- **Pioneering digital infrastructure**: French higher education is leading in verifiable digital credentials. For example, the University of Lille has automatically issued over 80,000 blockchain-secured digital diploma credentials via BCdiploma, integrating with European standards like EBSI and EDCI.

Snapshot

- **Issuing institutions**: Widespread across Higher Education (public universities like Lille, Grenoble Alpes, Cnam) and Grandes Écoles (HEC, EDHEC, ESTIA), as well as numerous private providers.
- **Platforms active**: FUN MOOC (France Université Numérique), BCdiploma, Coursera, edX, and Open Badges networks (e.g., Reconnaître association).
- **Annual credentials**: Tens of thousands (The University of Lille alone has issued 80,000+ digital credentials with over 206,000 verifications globally).

Dimension Scores

1. POLICY & RECOGNITION (18/25)

- **National definition**: Developing. There is no official definition for "microcredentials," but the concept of "blocks of competences" is legally defined in the Labour Code as coherent, assessable sets of skills contributing to a professional activity.
- **Legal/regulatory framework**: 3/3. Governed by the *2018 Law pour la liberté de choisir son avenir professionnel, managed by France Compétences.*
- **Integration into NQF**: Partial/Complex. They can be integrated into the National Qualifications Framework (NQF) if registered in the RNCP (as blocks of a full qualification) or the RS (*Répertoire spécifique*). However, many university microcredentials operate outside this formal framework.
- **Public funding schemes**: Massive but restricted. The CPF (Individual Learning Account) is highly utilized, but only applies to credentials formally registered in the RNCP or RS.
- **National strategy / roadmap**: Embedded in lifelong learning initiatives, the *Plan d'investissement dans les compétences* (PIC), and the *France 2030 strategy.*

2. ECOSYSTEM & ADOPTION (18/25)

- **Number of issuing institutions**: High. Driven by universities (e.g., Cnam is launching specialized micro-certifications), top business/engineering schools, and private VET providers.
- **Major national initiatives**: **GRADEO** (launched by FUN MOOC and ESTIA), **Dem-Attest** (University of Lille's digital credential project), and the **BRAVO-BFC** regional Open Badges project.
- **Industry involvement**: 2/3. Highly varied by sector. The IT/Digital and Business sectors actively co-create and value these (e.g., ESTIA partnering with Oracle). Conversely, traditional sectors like metallurgy remain reluctant and prefer full-fledged qualifications.
- **Platform presence**: Strong. FUN MOOC leads national efforts while global platforms (Coursera, edX, FutureLearn) host offerings from French institutions.
- **Public-private partnerships**: Evident in specific initiatives like the European MOOC Consortium for the Labour Market (EMC-LM) and regional Skills Fora.

3. **INFRASTRUCTURE & STANDARDS (16/20)**

- **Use of digital credential standards**: Advanced. Extensive use of Open Badges (championed by the *Reconnaître* association) and Blockchain technology for secure, verifiable credentials.
- **National credential infrastructure**: Robust. *France Compétences* manages the centralized RNCP/RS databases. The government is also deploying a "Passeport de compétences" (Competences Passport) linked to the CPF.
- **Alignment with EU frameworks**: Strong. Active participation in the MICROBOL project and the European Blockchain Services Infrastructure (EBSI/EDCI) via the University of Lille.
- **Verification systems & Data portability**: Maturing rapidly. Systems like BCdiploma provide 1-click verification without intermediaries and allow seamless sharing on platforms like LinkedIn.

4. **USAGE & MARKET PENETRATION (18/30)**

- **Number of digital credentials issued annually**: High volume. Tens of thousands issued, primarily through universities, digital platforms, and the CPF ecosystem.
- **Learner participation rates**: Exponential growth catalyzed by the 2018 CPF monetisation and the COVID-19 pandemic, which spurred demand for short, personalized online learning.
- **Employer recognition**: Developing. While utilized for upskilling, French corporate culture still exhibits strong "credentialism"-a deep-rooted attachment to traditional, full-length diplomas. Employers often struggle to assess the value of microcredentials compared to classic degrees.
- **Sector penetration**: Concentrated in Business, Finance, Technology, AI, Management, and Art.
- **Growth trend (3–5 years)**: Rapid acceleration in supply, though official registration bottlenecks persist.

Gaps

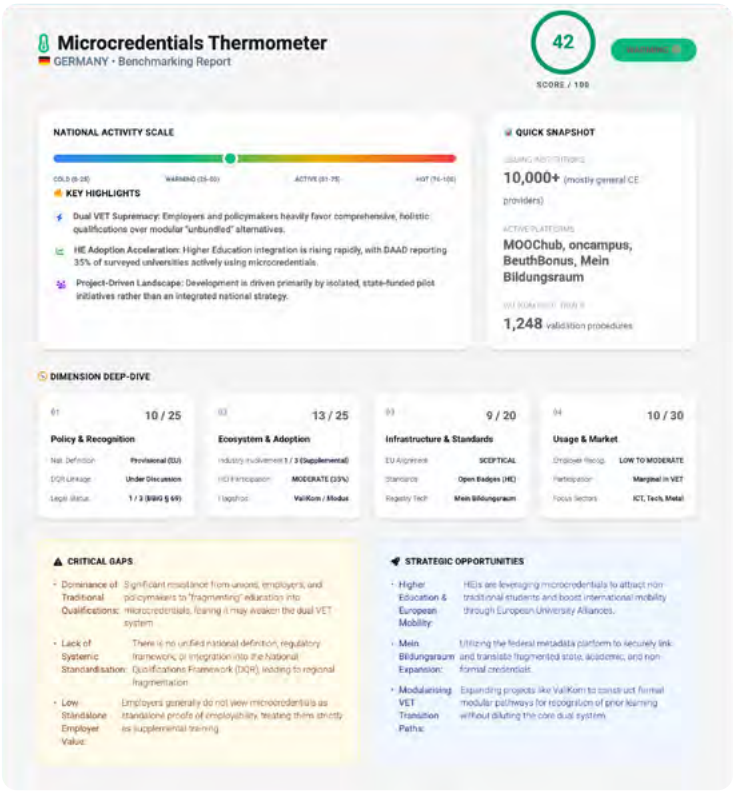
- **The Registration Bottleneck**: Accessing public funding (CPF) requires a credential to be registered in the *Répertoire spécifique* (RS). The process is rigorous, and the rejection rate for RS registration is around 85%, which stifles the speed at which providers can deploy funded microcredentials.
- **Terminological Confusion**: The lack of a shared definition for "microcredential" versus "Open Badge" versus "bloc de compétences" creates friction and misunderstanding between academic institutions, vocational trainers, and employers.
- **Employer Trust**: Despite growth, microcredentials have not yet overcome France's historical reliance on traditional diplomas as the primary tool for social and professional regulation.
- **ECTS vs. Competences**: Bridging higher education's time-based ECTS credits with the vocational sector's outcomes-based "blocks of competences" remains technically and administratively complex.

Opportunities

- **Competences Passport (Passeport de compétences)**: Integrating microcredentials and Open Badges into the upcoming national Competences Passport will give learners a centralized, state-backed digital wallet for all lifelong learning.
- **Scaling Blockchain & EU Interoperability**: Expanding the University of Lille's Dem-Attest model to other universities and fully integrating with the European Learning Model (ELM) and EBSI will make French microcredentials universally verifiable and portable across Europe.
- **Targeting Transversal Skills**: Utilizing microcredentials (especially Open Badges) to formally recognize "soft skills" and informally acquired competencies, which are currently poorly captured by the rigid NQF.

Annex B.3 - Germany

Germany's trusted dual VET system shapes a cautious approach: microcredentials are generally viewed as supplements to complete occupational qualifications. Adoption is accelerating in higher education and digital projects, with initiatives such as ValiKom, INVITE, HRK MODUS, MOOChub and Mein Bildungsraum. The major gap is systemic coherence - there is no final national definition, no general DQR link for non-formal credentials and limited interoperable issuance across the many providers and projects.

42/100	Policy	Ecosystem	Infrastructure	Usage
WARMING	10/25	13/25	9/20	10/30
Diagnostic snapshot				

Country **Germany**

Temperature Score ***42/100 (Warming 🟢)***

(Germany has a strong, highly trusted traditional education and dual VET system. Microcredentials are seen primarily as supplementary rather than foundational, though adoption is accelerating rapidly in Higher Education and digital sectors).

Key Highlights

- **Strong reliance on the Dual VET System**: Employers and policymakers heavily favour holistic, formal qualifications. Microcredentials are seen as a useful supplement, but not a replacement for traditional degrees.
- **Growing adoption in Higher Education (HE)**: Driven by internationalisation and European University Alliances, HE adoption is rising. A recent DAAD survey showed 35% of surveyed HEIs currently use microcredentials, up from 20% in the previous year.
- **Project-based rather than systemic**: Innovation is heavily driven by state-funded pilot projects (e.g., ValiKom, INVITE, HRK Modus) rather than a unified national regulatory framework.

Snapshot

- **Issuing institutions**: 10,000+ continuing education providers active nationally; approx. 35% of surveyed HEIs.
- **Platforms active**: MOOChub, oncampus.de, BeuthBonus Open Badge Academy, and the emerging national portal *Mein Bildungsraum* (beta).
- **Annual credentials**: Low relative to system size. Exact national aggregation is unavailable, but major pilot programs like ValiKom conducted 1,248 validation procedures between 2018-2021.

Dimension Scores

1. POLICY & RECOGNITION (10/25)

- **National definition of microcredentials**: No. There is no final official definition. The BMBF utilizes provisional EU definitions but questions universal cross-sector applications in Germany.
- **Legal/regulatory framework**: 1/3. Governed informally in Higher Education via HRK guidelines. In VET, the Vocational Training Act (BBiG § 69) regulates "training modules," but specific microcredential laws are absent.
- **Integration into NQF**: No. Referencing non-formal qualifications to the German Qualifications Framework (DQR) remains under discussion.
- **Public funding schemes**: Yes. There is high project-based funding, with the BMBF funding initiatives like Jobstarter, INVITE, and ValiKom.
- **National strategy / roadmap**: Developing. Addressed in the National Continuing Education Strategy, but no dedicated national microcredentials roadmap exists.

2. ECOSYSTEM & ADOPTION (13/25)

- **Number of issuing institutions**: High potential but fragmented. There are over 10,000 continuing education providers active nationally, and 35% of surveyed HEIs actively use them.
- **Major national initiatives**: Several pilot and research programs exist, including ValiKom for competence validation, HRK MODUS for HE recognition, TrainSpot, and the discontinued MYSKILLS approach.
- **Industry involvement**: 1/3. Employers heavily prefer full VET qualifications. Chambers of Commerce (IHK/HWK) co-develop modules, but usage is considered strictly supplemental.
- **Platform presence**: Active. Platforms like MOOChub, oncampus.de, and specific project portals such as the BeuthBonus Open Badge Academy are currently operational.
- **Public-private partnerships**: Present via Chamber of Commerce networks, employers' associations (BDA), and trade unions.

3. INFRASTRUCTURE & STANDARDS (9/20)

- **Use of digital credential standards**: Emerging. The Open Badges standard is increasingly used in HE and continuing education projects such as BeuthBonus, OpenVM, and my-Badges.

- **National credential infrastructure**: In beta. "Mein Bildungsraum" aims to provide a centralized networking and wallet infrastructure.
- **Alignment with EU frameworks**: Sceptical. The BMBF and national experts frequently question strict EU standardisation, fearing it may dilute the established dual VET system.
- **Verification systems**: Pilot stages. Projects like IMPact Digital are exploring blockchain technology via Moodle plugins for e-learning certificates.
- **Data portability**: Fragmented. Credentials are often tied to individual platforms or projects without universal interoperability yet.

4. **USAGE & MARKET PENETRATION (10/30)**

- **Number of digital credentials issued**: Fragmented data. Volumes are generally low relative to the population size, though localized usage in major pilot programs (like ValiKom) is documented.
- **Learner participation rates**: Marginal in formal VET. Primarily used by adult learners, qualified workers seeking upskilling, and refugees or migrants.
- **Employer recognition**: Low to Moderate. Highly valued in fast-changing sectors like IT, but broadly seen by employers strictly as supplemental to full degrees.
- **Sector penetration**: High in specific innovation-driven niches such as IT, Fintech, Communications/Media, Metal/Machine tech, and Adult Education.
- **Growth trend (3–5 years)**: Rapid growth in Higher Education, with a recent survey showing 35% adoption among HEIs, alongside momentum from European University Alliances.

Gaps

- **Dominance of Traditional Qualifications**: The German "Dual System" is deeply trusted. There is significant resistance from unions, employers, and policymakers to "fragmenting" education into microcredentials, fearing it may weaken holistic vocational training.
- **Lack of Systemic Standardisation**: There is no unified national definition, regulatory framework, or integration into the National Qualifications Framework (DQR). The market remains highly fragmented across different federal states, HEIs, and private providers.
- **Employer Awareness & Trust**: Employers generally do not view microcredentials as standalone proof of employability, treating them instead as supplementary training for already-qualified workers.

Opportunities

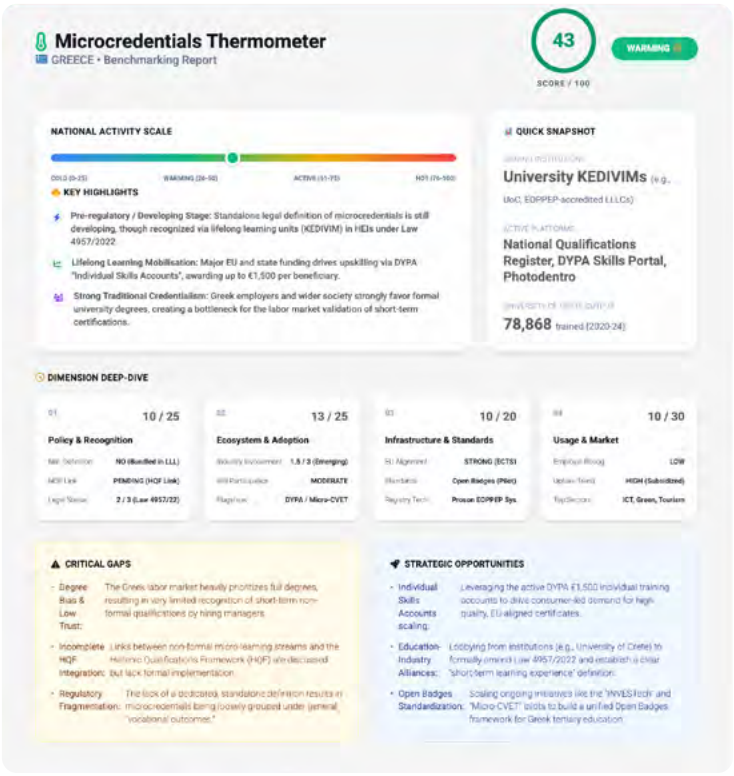
- **Higher Education & European Mobility**: HEIs increasingly leverage microcredentials to attract non-traditional students, facilitate lifelong learning, and boost international mobility through European University Alliances

Annex B.4 - Greece

Greece is in a pre-regulatory but active experimentation phase. University KEDIVIM centres, Law 4957/2022, EOPPEP systems and DYPA Individual Skills Accounts create channels for short learning and certification; the accounts can fund training and certification for beneficiaries. Activity is substantial in green, digital, tourism, health and security fields, but the microcredential concept is not yet fully anchored in the Hellenic Qualifications Framework, employer recognition remains weak and platforms are fragmented.

43/100	Policy	Ecosystem	Infrastructure	Usage
WARMING	10/25	13/25	10/20	10/30

Diagnostic snapshot



Country **Greece**

Temperature Score **43/100 (Warming ●)**

Key Highlights

- **Pre-regulatory but developing stage**: There is currently no standalone legal definition of microcredentials, but they are increasingly being recognized via lifelong learning units (KEDIVIM) within Higher Education Institutions under recent legislation (Law 4957/2022).
- **Strong Lifelong Learning (LLL) Integration**: Significant state and EU-funded activity is occurring through University KEDIVIMs and the introduction of "Individual Skills Accounts" by the Public Employment Service (DYPA).
- **Low Employer Recognition**: The Greek market and society still heavily favor traditional formal qualifications, resulting in a lack of broad labor market recognition for short-term training and non-formal learning.

Snapshot

- **Issuing institutions: Multiple**. Primarily Centers for Training and Lifelong Learning (KEDIVIM) within universities (e.g., University of Crete), public/private Lifelong Learning Centres (KDVM), and the national certification body EOPPEP, although there is no legislation framework yet.
- **Platforms active**: EOPPEP National Qualifications Register, EOPPEP maintains a range of Qualification Registries mainly focusing in IVET and upper secondary VET, as well as registries for specific professionals (Harbour loaders, Private security personnel, Adult Trainers of non-formal education, Hairdressers, Barbers, and Nail Technicians). Institutional e-Learn platforms (e.g., UoC e-Learn), and the upcoming Individual Skills Account digital portal.
- **Annual credentials**: Specific data isolating "microcredentials" is not tracked nationally, but volume is high for general LLL certificates (e.g., the University of Crete KEDIVIM alone trained 78,868 individuals across 99 accredited programs from 2020-2024).

Dimension Scores

1. POLICY & RECOGNITION (10/25)

- **National definition**: No explicit, standalone legal definition aligned with EU frameworks yet. Law 4957/2022 considers them as "vocational outcomes" within LLL programs, though institutions like the University of Crete are lobbying the Ministry of Education to amend this to establish microcredentials officially as "short-term learning experiences". Law 4957/2022 provides the statutory framework for the operation of the Centres for Training and Lifelong Learning (K.E.DI.VI.M.) within Greek Higher Education Institutions (HEIs), enabling them to design and deliver short-form lifelong learning and continuing education programmes. Nevertheless, the Law neither defines the concept of micro-credentials nor establishes a dedicated national regulatory framework governing their development, quality assurance, recognition or issuance. Accordingly, the authoritative conceptual reference for micro-credentials in Greece remains the Council Recommendation of 16 June 2022 on a European approach to micro-credentials for lifelong learning and employability (2022/C 243/02)
- **Legal/regulatory framework**: 2/3. Governed broadly under adult education and lifelong learning laws (Law 4763/2020 and Law 4957/2022). Law 4921/2022 - Law 5082/2024 constitutes the first Greek legislative act to explicitly refer to micro-credentials. Nevertheless, the Law does not establish a legal definition or a comprehensive national framework for micro-credentials. Instead, it provides for the digital issuance of micro-credentials by providers operating Schools of Higher Vocational Training (S.A.E.K.) and specifies the minimum information that such digital credentials should contain, drawing upon international good practices. EOPPEP is the competent authority for the certification of non-formal learning outputs.
- **Integration into NQF**: A link between non-formal/informal learning and the Hellenic Qualifications Framework (HQF) is under discussion, but full integration of microcredentials is still pending. Based on the consultation in the framework of the implementation of the "Continuing Vocational Training link to Micro-Credentials, MICRO CVET" ERASMUS+ EQAVET NRPs 2023-2026 Project, implemented by EOPPEP as the EQAVET NRP in Greece, the integration of the MCs into the national qualifications system and the linkage with the National Qualifications Framework (NQF) constitute critical success factors

- **Public funding schemes:** Yes. Substantial funding exists through the EU NextGenerationEU recovery fund, and the government launched "Individual Skills Accounts" in 2022, providing up to €1,500 per beneficiary for training and certification.
- **National strategy / roadmap:** The National Skills Strategy (June 2022) focuses on green and digital skills but does not yet assign a prominent, specific role to microcredentials or validation.

2. ECOSYSTEM & ADOPTION (13/25)

- **Number of issuing institutions**: Growing. Higher Education Institutions (via KEDIVIMs) and various VET providers are actively experimenting with pilot programs. Law 5082/2024 provides for the digital issuance of micro-credentials by providers operating Schools of Higher Vocational Training (S.A.E.K.) and specifies the minimum information that such digital credentials should contain, drawing upon international good practices.
- **Major national initiatives**: The rollout of Individual Skills Accounts by DYPA, large-scale training collaborations with the Ministry of Tourism and Ministry of Health, and EU-funded pilots like "Micro-CVET" and "INVESTech". The "Continuing Vocational Training link to Micro-Credentials, MICRO CVET" ERASMUS+ EQAVET NRPs 2023-2026 Project, implemented by EOPPEP as the EQAVET NRP in Greece, proposed a national approach to integrating micro-credentials within the Continuing Vocational Training (CVET) context.
- **Industry involvement**: 1.5/3. Emerging. While there are some co-creation efforts (like the INVESTech project), experts note a shared struggle with education-industry misalignment and a lack of labor market validation for training-acquired skills.
- **Platform presence**: Fragmented. The National Qualifications Register (proson.eoppep.gr) operates centrally, but individual universities use their own varied platforms.
- **Public-private partnerships**: Developing. The Public Employment Service (DYPA) and EOPPEP collaborate with trade unions, employers' organizations, and enterprise networks for occupational standard setting. In the latest established VET Governance System, social partners are participating in the various bodies (KSEEK, etc.)

3. INFRASTRUCTURE & STANDARDS (10/20)

- **Use of digital credential standards**: Developing. Open Badges have been used experimentally in open education systems (e.g., Photodentro, eTwinning), and EOPPEP issues digital certificates ("e-prosonta").
- **National credential infrastructure**: EOPPEP utilizes an integrated IT system to confirm candidate identities , provide a mechanism for qualifications' validity verification, and manage the National Qualifications Register.
- **Alignment with EU frameworks**: Greece is strongly aligned with EQF, EQAVET and ECTS. Microcredentials are being tied to ECTS credits (e.g., 1 ECTS with no maximum limit). At the moment only in the case of KDVM of the Universities.
- **Verification systems**: EOPPEP provides e-services for verifying the validity of individual certificates.
- **Data portability**: Limited. The transferability of outcomes across different institutions remains a challenge that needs to be addressed.

4. USAGE & MARKET PENETRATION (10/30)

- **Number of digital credentials issued annually**: Thousands are issued across various disconnected LLL and VET streams (e.g., 60,928 private security professionals certified over a decade; 40,000-50,000 ECDL certifications annually). These certifications are not yet regarded as microcredentials. There is no criterion yet to define that a 105 hours VET program that these professionals have to follow, constitutes a "small volume of learning activity following the EU definition of MCs.
- **Learner participation rates**: Increasing rapidly, significantly driven by public subsidies and DYPA initiatives for the unemployed and employed.
- **Employer recognition**: Low. There is a strong societal preference for traditional formal education. Practical, professional skills gained through short-term training are often not validated or recognized by employers.
- **Sector penetration**: Concentrated in high-demand, subsidized sectors including Green/Renewable Energy, Digital/ICT, Tourism, Healthcare, and Security.
- **Growth trend (3–5 years)**: Positive. Driven by new legislation (Law 4957/2022) and an influx of EU recovery funds.

Gaps

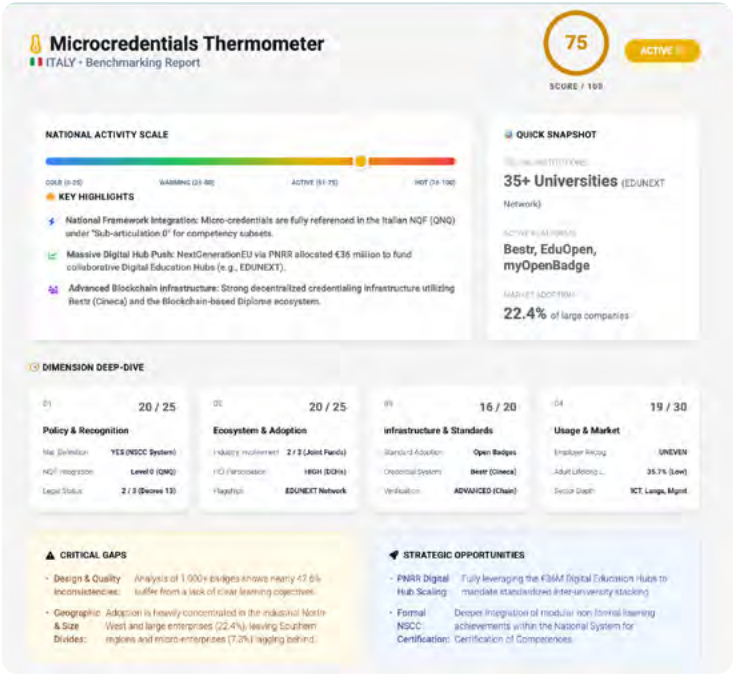
- **Employer Awareness & Trust**: The Greek labor market strongly favors formal, traditional degrees. There is a documented lack of recognition for professional qualifications acquired through short-term training.
- **Lack of Full NQF Integration**: While Higher Education legislation allows for lifelong learning units to be awarded, full integration of microcredentials into the National Qualifications Framework (HQF) is still pending.
- **Regulatory Fragmentation**: There is no dedicated, standalone legal definition of microcredentials; they are currently bundled under general "non-formal education" or "vocational outcomes".

Opportunities

- **Individual Skills Account**s: Leveraging the newly launched, state-funded Individual Skills Accounts (funded up to €1,500 per citizen) to drive massive consumer demand for verifiable, high-quality microcredentials.
- **EU-Aligned Legislative Reform**: Using pressure from Higher Education Institutions (like the University of Crete) to successfully amend national law to define microcredentials as "short-term learning experiences," perfectly aligning Greece with the 2022 European Commission approach.
- **Standardizing Digital Badges**: Scaling successful pilots (like "Micro-CVET" and "INVESTech") to introduce a unified, interoperable digital credentialing system (like Open Badges) across all Greek HEIs and VET providers.

Annex B.5 - Italy

Italy combines formal framework progress with regional implementation complexity. The Italian Qualifications Framework includes microcredentials as “sub-articulation 0”, while PNRR investment supports Digital Education Hubs, including the EDUNEXT network of 35 universities. Bestr, EduOpen and myOpenBadge provide a mature digital ecosystem, with blockchain experiments for verification. The challenge is to connect national definitions, regional competence systems, active labour-market measures and employer-facing recognition without creating competing labels.

75/100	Policy	Ecosystem	Infrastructure	Usage
WARMING	20/25	20/25	16/20	19/30
Diagnostic snapshot				

Country **Italy**

Temperature Score **75/100 (Active 🟡)**

Key Highlights

Formal integration of micro-credentials into the Italian National Qualifications Framework (NQF) as a specific sub-articulation (Level 0).
Massive push for digital innovation via the National Recovery and Resilience Plan (PNRR), heavily funding Digital Education Hubs (DEHs) such as the EDUNEXT network comprising 35 universities.
Strong digital infrastructure utilizing the Bestr platform (by Cineca) and Blockchain technology (e.g., the Diplome ecosystem) for secure, verifiable, and portable Open Badges.

Snapshot

- **Issuing institution**s: 35+ universities in the EDUNEXT network alone, plus multiple independent universities (e.g., Univ. of Pisa, Trento), AFAM institutions, and other Regional and National VET providers, mainly within the framework of ad-hoc initiatives.
- **Platforms active**: Bestr, EduOpen, myOpenBadge.
- **Annual credentials**: Exact national total is decentralized, but usage is scaling rapidly. Studies have analysed repositories of over 1,000 Italian micro-credentials, and 22.4% of large companies report using microlearning.

Dimension Scores

1. POLICY & RECOGNITION (20/25)

- **National definition**: Yes. 'Micro-credentials' are formally defined as 'qualifications consisting of one or more competences, constitutive of broader qualifications, issued, within the NSCC, as a result of short-term learning paths, also of a flexible, personalised and modular nature'. Another critical element is the regional fragmentation, which allows for autonomy to implement local pilots, but imply limitations in terms of systemic adoption at national level.
- **Legal/regulatory framework**: 2/3. Grounded in Legislative decree n. 13 (2013) for the validation/certification of learning, and supported by Laws n. 341 (1990) and n. 4 (1999) for short courses and lifelong learning.
- **Integration into NQF**: Yes. Micro-credentials are fully referenced in the Italian NQF (QNQ) under "Sub-articulation 0", which denotes a "micro-credential composed of one or more competences of a broader qualification".
- **Public funding schemes**: Yes. Substantial funding is routed through the EU's NextGenerationEU via the National Recovery and Resilience Plan (PNRR), which allocated €36 million for the creation of Digital Education Hubs, alongside the "Piano Nuove Competenze - Transizioni" (New Skills Plan - Transitions).
- **National strategy / roadmap**: Yes. Driven by the National System for Certification of Competences (NSCC) and PNRR DEH initiatives to increase digital education, lifelong learning, and employability.

2. ECOSYSTEM & ADOPTION (20/25)

- **Number of issuing institutions**: High. Broad adoption across the tertiary system, including 35 universities and 5 conservatories/academies in the EDUNEXT network, alongside other institutions (e.g., University of Pisa, Trento) and Regional VET providers.
- **Major national initiatives**: EDUNEXT (utilizing the ECOBI model for competency-based micro-design), DEH ALMA, the eCampus project, and the "Piano Nuove Competenze - Transizioni".
- **Industry involvement**: 2/3. The Joint Interprofessional Funds heavily finance enterprise, sectoral, and individual training plans. PNRR mandates that the private sector and businesses co-design educational needs within the DEHs. EDUNEXT involves 55 external partners, including businesses.
- **Platform presence**: High. Bestr (developed by Cineca) acts as Italy's leading digital credentialing platform, while EduOpen aggregates 24 universities for MOOC production.
- **Public-private partnerships**: Expanding. Fostered through the Digital Education Hubs and collaboration with Regional authorities and Joint Interprofessional Funds.

3. INFRASTRUCTURE & STANDARDS (16/20)

- **Use of digital credential standards**: Scaled. Open Badges are extensively utilized (e.g., Bestr platform, ECOBI model's Milestone Open Badges).
- **National credential infrastructure**: Robust. Grounded in the National Repository of education and vocational training qualifications, and mapped using the Atlas of Work and Qualifications.

- **Alignment with EU frameworks**: Strong. Explicitly aligned with the EQF, Europass, ECTS, and the 2022 EU Council Recommendation on Micro-credentials.
- **Verification systems**: Advanced. The Bestr platform and 'Diplome' ecosystem utilize Blockchain technology to ensure the transparency, security, and immutability of academic credentials.
- **Data portability**: Maturing. Badges include embedded metadata detailing the recipient, assessment method, and issuer. They can be added to digital resumes, social media, and are shareable worldwide.

4. **USAGE & MARKET PENETRATION (19/30)**

- **Number of digital credentials issued annually**: Data is fragmented across institutions, though platforms like Bestr and various European pilot projects process thousands of learners.
- **Learner participation rates**: Adult participation in non-formal learning in Italy sits at 35.7%, which is roughly 11% below the EU average. Microlearning is most popular among employed individuals and highly educated adults (24.9%).
- **Employer recognition**: Growing but uneven. While large companies (250+ employees) are adopting microlearning at a rate of 22.4%, micro-enterprises lag significantly at 7.3%.
- **Sector penetration**: Notable in digital skills (Digital Humanities, Data Analysis), languages (e.g., Italian L2, English B2 via CSAL UNIVPM), and highly specific professional roles like International Credential Evaluators.
- **Growth trend (3–5 years)**: Upward trend post-pandemic. PNRR investments are rapidly expanding the adoption of micro-credentials and blended learning models across universities.

Gaps

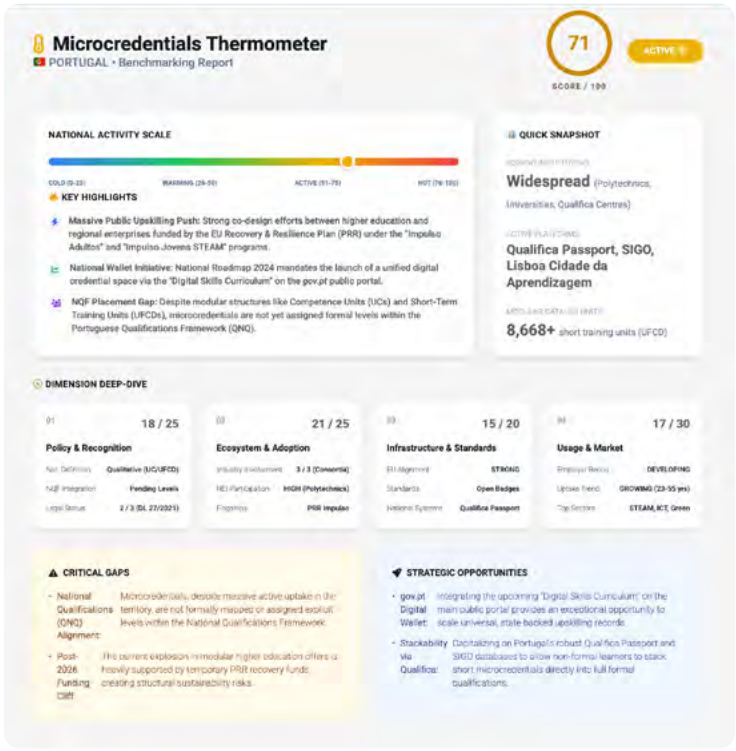
- **Quality & Design Inconsistencies**: A methodological analysis of 1,048 micro-credentials across different open databases revealed that 47.62% suffered from an "absence of learning objectives," highlighting the need for better standardization.
- **Geographic & Educational Divides**: Microlearning adoption is noticeably higher in the industrial North-West and among highly educated workers. This leaves a significant gap for SMEs and low-skilled adults in less developed regions who struggle with limited resources and digital infrastructure.

Opportunities

- **PNRR & Digital Education Hubs (DEHs)**: Leveraging the €36M creation of 3 Digital Education Hubs (like EDUNEXT, ALMA, and Edvance) to standardize micro-credentials, foster inter-university collaboration, and create flexible, digital-first learning pathways (e.g., the ECOBI model).
- **Formal Recognition via NSCC Integration**: Further embedding micro-certificates into the National System for Certification of Competences (NSCC) and the "Piano Nuove Competenze – Transizioni" can expand skills certification, involve non-formal learning, and enhance international recognition through EQF alignment.

Annex B.6 - Portugal

Portugal has used Recovery and Resilience Plan investment to scale short modular learning through Impulso Jovens STEAM and Impulso Adultos. The National Qualifications Catalogue contains thousands of Short-Term Training Units, and Qualifica Passport, SIGO and the planned Digital Skills Curriculum provide strong foundations for a national record and wallet. Employer co-design is a notable strength. Remaining issues include formal QNQ level assignment, consistent terminology across learner groups and sustainability after temporary programme funding.

71/100	Policy	Ecosystem	Infrastructure	Usage
WARMING	18/25	21/25	15/20	17/30
Diagnostic snapshot				

Country **Portugal**

Temperature Score **71/100 (Active 🟡)**

Key Highlights

- Massive push via EU Recovery and Resilience Plan (PRR) funding, which established initiatives like "Impulso Jovens STEAM" and "Impulso Adultos" to develop short, modular higher education courses in close cooperation with regional employers.
- High-level policy integration through Portugal's National Roadmap 2024, which mandates the creation of a "Digital Skills Curriculum" on the gov.pt portal to serve as a national digital credential wallet.
- While the National Qualifications Framework (QNQ) is open to microcredentials-recognising Competence Units (UCs) and Short-Term Training Units (UFCD)-they are currently not formally assigned a specific QNQ level.

Snapshot

- **Issuing institutions**: Widespread across Higher Education Institutions (Universities and Polytechnics) and Qualifica Centres. For example, the Polytechnic University of Coimbra alone offers 58 active microcredentials.

- **Platforms active**: Qualifica Passport, SIGO, the upcoming Digital Skills Curriculum on gov.pt, and local open badge platforms like Lisboa, Cidade da *Aprendizagem*.
- **Annual credentials**: The National Qualifications Catalogue (CNQ) actively lists over 8,668 short-term training units (UFCDs). Institutional initiatives show strong localized impact (e.g., nearly 2,000 combined graduates under Coimbra's Impulso programs).

Dimension Scores

1. POLICY & RECOGNITION (18/25)

- **National definition**: Qualitative. Practical definitions exist around Competence Units (UCs), Short-Term Training Units (UFCDs), and short/medium pathways for adults (PCMD) within the National Qualifications System (SNQ).
- **Legal/regulatory framework**: 2/3. Grounded in legislation such as Decreto-Lei n.º 27/2021, which legally supports the development of "microcredentials/ microdiplomas" to promote continuous learning.
- **Integration into NQF**: No. While the QNQ is structurally open to microcredentials and they exist within the National Qualifications Catalogue (CNQ), they are not yet formally assigned a QNQ level.
- **Public funding schemes**: Yes. Heavily supported by EU Recovery and Resilience Plan (PRR) funds and state-backed programs like "Skills 4 pós-Covid".
- **National strategy / roadmap**: Yes. Explicitly embedded in Portugal's National Roadmap 2024, which includes the integration of a National Catalogue of Micro-credentials in Digital Skills.

2. ECOSYSTEM & ADOPTION (21/25)

- **Number of issuing institutions**: High adoption among Polytechnic institutes (e.g., Coimbra, Leiria, Bragança) and public universities, driven by explicit government funding mandates.
- **Major national initiatives**: "Impulso Jovens STEAM", "Impulso Adultos", the "Skills 4 pós-Covid" agenda, and the upcoming "Digital Skills Curriculum".
- **Industry involvement**: 3/3. PRR funding explicitly requires Higher Education Institutions to form collaborative networks or consortia with public and private employers to design the training offers.
- **Platform presence**: High. Future integration into the national single public services portal (gov.pt). Localized platforms like Cities of Learning map learning opportunities.
- **Public-private partnerships**: Extensive. Sectoral Councils for Qualification (CSQ), public administration, and private enterprises actively collaborate to define skills needs and co-design curricula.

3. INFRASTRUCTURE & STANDARDS (15/20)

- **Use of digital credential standards**: Maturing. Platforms like Lisboa, Cidade da Aprendizagem use digital "open badges" to microcredential skills.
- **National credential infrastructure**: Strong foundational systems. The Qualifica Passport acts as an online tool for individuals to record lifelong skills and qualifications. The "Digital Skills Curriculum" will serve as a national digital wallet.

- **Alignment with EU frameworks**: Yes. The certification models being built by public bodies and HEIs are explicitly mandated to align with the European approach to microcredentials and connect to Europass.
- **Verification systems & Data portability**: Developing. The integration of microcredentials into the single gov.pt portal is designed to allow citizens to easily register, validate, and demonstrate skills to employers.

4. **USAGE & MARKET PENETRATION (17/30)**

- **Number of digital credentials issued annually**: Specific national totals for microcredentials distinct from broader modular training are difficult to isolate, but the scale is large given the 8,668 short-term units available in the CNQ.
- **Learner participation rates**: Growing steadily. Programs target highly specific demographics, from active adult professionals (23-55 years old) needing reskilling to young graduates needing specific market competencies.
- **Employer recognition**: Developing. While employers are involved in co-designing the programs, broad structural recognition is still taking shape. The government is pushing for the Digital Skills Curriculum to be officially recognized in recruitment processes.
- **Sector penetration**: Highly concentrated in priority areas: Digital Skills (ICT), Green Transition/Sustainability, STEAM, Health Data Science, and Public Administration.
- **Growth trend (3–5 years)**: Exponential. Initiated as a post-Covid recovery strategy, the rollout of microcredentials has accelerated rapidly, fueled by PRR investments intended to last through 2026.

Gaps

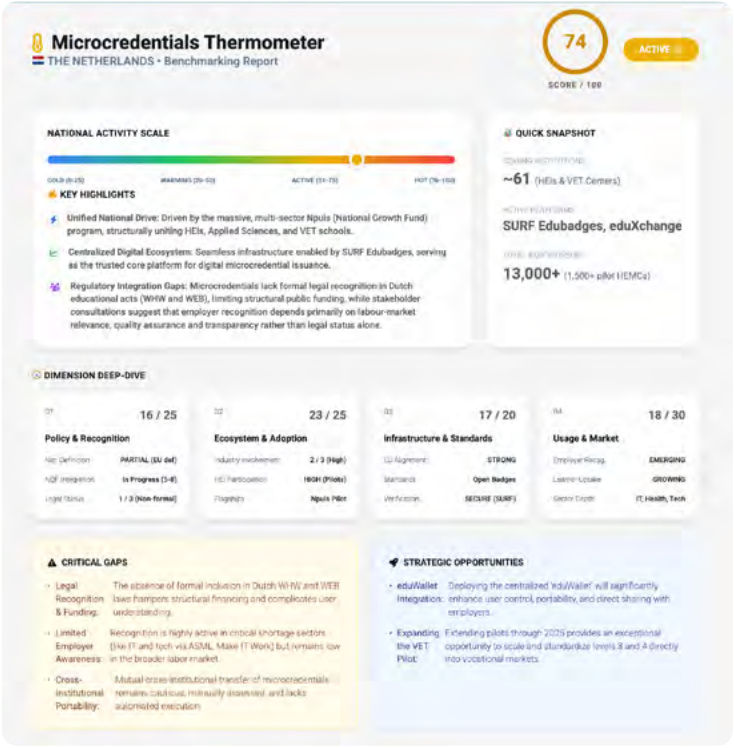
- **NQF Alignment**: The biggest structural gap is that microcredentials, despite being heavily utilized, are not yet formally assigned specific levels within the National Qualifications Framework (QNQ).
- **Funding Dependency**: The current explosion in microcredential offerings is heavily subsidized by the EU Recovery and Resilience Plan (PRR). Long-term financial sustainability post-2026 will need to be addressed.

Opportunities

- **The gov.pt Integration**: The launch of the "Digital Skills Curriculum" as a digital wallet on the main government portal provides a massive opportunity to standardize the verification and portability of microcredentials nationwide.
- **Stackability via the Qualifica Passport**: Portugal already possesses a robust lifelong learning tracker (the Qualifica Passport and SIGO system). Leveraging these existing infrastructures to allow learners to seamlessly stack microcredentials into full formal qualifications presents a major opportunity for adult education.

Annex B.7 - The Netherlands

The Netherlands has one of the strongest implementation ecosystems in the sample. Npuls, the national pilots and SURF Edubadges support shared quality arrangements and widespread participation by universities, universities of applied sciences and VET institutions. More than 1,500 microcredentials were issued during the higher-education pilot. Legal anchoring in the WHW and WEB remains incomplete, but stakeholders emphasise that visibility, labour-market recognition, level information and simple metadata are more urgent than creating a wholly new qualification category.

74/100	Policy	Ecosystem	Infrastructure	Usage
WARMING	16/25	23/25	17/20	18/30
Diagnostic snapshot				

Country **The Netherlands**

Temperature Score **74/100 (Active 🟡)**

Key Highlights

- A massive, collaborative national approach driven by the **Npuls** (National Growth Fund) programme, uniting Universities, Universities of Applied Sciences, and Vocational Education and Training (VET) schools.
- Strong, unified digital infrastructure through the **SURF Edubadges** platform, which centralises credential issuance for the tertiary sector.
- Despite massive ecosystem adoption, micro-credentials currently lack formal legal recognition in Dutch education laws (WHW and WEB), which presents challenges for structural funding and broad employer awareness.

Snapshot

- **Issuing institutions**: ~61 (Including 22 Universities of Applied Sciences, 12 Research Universities, and 27 secondary VET institutions participating in national pilots).

- **Platforms active**: Edubadges (by SURF), eduXchange.
- **Annual credentials**: Over 1,500 unique micro-credentials issued during the higher education pilot (2021-2023), with "thousands" of learners impacted.

Dimension Scores

1. **POLICY & RECOGNITION (16/25)**
    - **National definition**: Partial. While there is no legal definition in law, the national pilot strictly operates on the EU Council's definition of micro-credentials.
    - **Legal/regulatory framework**: 1/3. Micro-credentials currently operate outside existing legislation; the Dutch Adult and Vocational Education Act (WEB) and Higher Education and Research Act (WHW) do not encompass them.
    - **Integration into NQF**: Partial/In progress. Because they lack a legal framework, formal education micro-credentials are not formally linked to the NLQF yet. The Dutch debate increasingly focuses on whether labour-market recognition may in some cases be more important than formal qualification framework alignment. However, the pilot established guidelines and a formal procedure to get the right NLQF level assigned. Only via this procedure by the NCP NLQF, it is possible to align microcredentials with EQF/NLQF levels (Levels 5-8 for HE, 3-4 for VET) on digital certificates.
    - **Public funding schemes**: Partial. The pilots are heavily backed by the government's National Growth Fund (Npuls). However, the micro-credentials themselves are not part of government-funded education, meaning learners or employers generally pay the full cost price.
    - **National strategy / roadmap**: Yes. Addressed structurally through Npuls and highlighted in the Ministry's "Envisioning 2040" report as an important element of the future educational landscape.
2. **ECOSYSTEM & ADOPTION (23/25)**
    - **Number of issuing institutions**: High. Widely adopted across the tertiary system, involving the vast majority of Universities of Applied Sciences and Research Universities, and expanding to VET providers.
    - **Major national initiatives**: The National Pilot Micro-credentials (via Npuls), the "FastSwitch" network, and "Make IT Work".
    - **Industry involvement**: 2/3. High collaboration in co-designing curricula to address specific skills shortages. Notable examples include the ASML Manufacturing Excellence Course, Make IT Work with IT companies, and the Centre for Innovative Studies in Water Management (CIV Water).
    - **Platform presence**: High. Centralised around the SURF Edubadges platform for issuance.
    - **Public-private partnerships**: Extensive. E.g., CIV Water acting as a public-private partnership in Friesland for water technology.
3. **INFRASTRUCTURE & STANDARDS (17/20)**
    - **Use of digital credential standards**: Scaled. Digital certificates are issued using the Edubadges service, which leverages the Open Badges standard.

- **National credential infrastructure**: Robust. The Edubadges platform acts as the trusted national infrastructure for Dutch tertiary education.
- **Alignment with EU frameworks**: Strong. The Dutch framework uses ESG standards for quality assurance, ECTS for study load, EQF/NLQF for levels, and aligns with the 2022 EU Council Recommendation.
- Verification systems & Data portability: Maturing. Edubadges provides secure digital issuance. The sector is also developing an 'eduWallet' to allow learners to store and share their digital proofs. The "Micro-Evaluator" tool was built to help admissions officers assess micro-credentials using Lisbon Recognition Convention (LRC) guidelines.

4. USAGE & MARKET PENETRATION (18/30)

- **Number of digital credentials issued annually**: Over 1,500 micro-credentials were issued during the 2021-2023 higher education pilot. Across the broader Edubadges service (which includes regular/extra-curricular badges), 13,000 badges have been issued.
- **Learner participation rates**: Growing. "Thousands" of learners have received a micro-credential. The "Make IT Work" program's 'Introduction to Programming' is the most frequently issued micro-credential.
- **Employer recognition**: Emerging. While sectors with acute shortages (like IT and healthcare) recognize and co-create them, the term "micro-credential"
- remains relatively unknown to employers across the broader labor market.**Sector penetration**: High in priority shortage areas: IT, Care & Welfare, Education, and Technical professions.
- **Growth trend (3–5 years)**: Exponential. Transitioned from exploratory discussions in 2019-2020 to a massive national pilot involving the majority of public HE and VET institutions by 2024.

Gaps

- **Legal Recognition and Funding**: The lack of formal inclusion in the WHW and WEB laws hampers formal structural financing and creates confusion among employers and learners. The Netherlands does not need more microcredentials; it needs better recognition of the ones that already exist
- **Employer Awareness**: Outside of specific co-creation initiatives and shortage sectors (like IT/technical), broad labor market recognition and HR awareness are still limited.
- **Cross-Institutional Portability**: While tools like the Micro-Evaluator exist and mutual trust is promoted within the pilot via peer reviews, automatic recognition across different institutions is still treated with caution and requires further alignment.

Opportunities

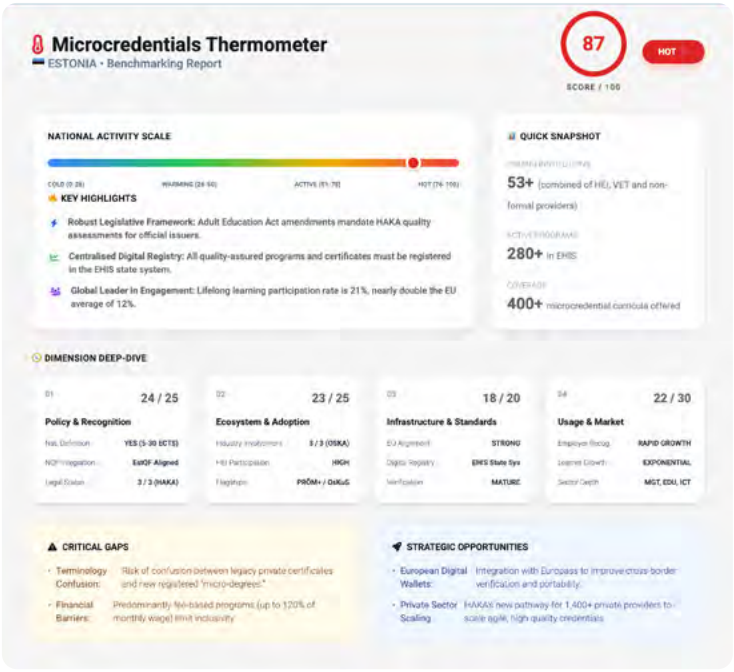
- **eduWallet Integration**: Launching the digital education wallet (eduWallet) can massively enhance cross-border interoperability, user control, and seamless sharing with employers.
- **Expanding the VET Pilot**: The ongoing VET pilot (running until 2025) offers a huge opportunity to standardize lifelong learning for levels 3 and 4, connecting directly to regional employer needs and practical workforce upskilling.

Annex B.8 - Estonia

Estonia provides a high-regulation, high-infrastructure model. Amendments to the Adult Education Act establish a defined volume, quality assessment by HAKA for eligible providers and registration in the EHIS system. The narrative report recorded more than 280 programmes, while the June webinar update referred to roughly 450 approved programmes, reflecting a rapidly evolving system. Strengths include strong lifelong-learning participation, national skills intelligence through OSKA and funding linked to quality; employer understanding and complete usage data still need development.

87/100	Policy	Ecosystem	Infrastructure	Usage
HOT	24/25	23/25	18/20	22/30

Diagnostic snapshot



Country **Estonia**

Temperature Score **Temperature Score: 87/100 (Hot 🔴)**

Key Highlights

- **Robust Legislative Framework**: Estonia has established a highly regulated market through amendments to the Adult Education Act, which mandate rigorous curriculum group-based quality assessments by the Estonian Quality Agency for Education (HAKA) for any institution wishing to issue official micro-credentials.
- **Centralised Digital Registry**: To ensure transparency, cross-border recognition, and employer trust, all quality-assured micro-credential programmes and their corresponding certificates must be registered in the state-run Estonian Education Information System (EHIS).
- **High Lifelong Learning Engagement**: Estonia boasts an exceptionally high adult lifelong learning participation rate of 21% (nearly double the EU average of 12%), creating a highly active market for micro-credentials to address rapid digital and green transitions.

Snapshot

- **Issuing institutions:** 13 Higher Education Institutions (HEIs), 30 Vocational Education and Training (VET) institutions, and an expanding subset of the 1,400+ registered adult continuing education providers passing state QA.
- **Platforms active:** EHIS (National Registry), Koolituskrediit (employer-HEI matching platform in Ülemiste City).
- **Annual credentials:** Over 280 micro-credential and micro-degree programmes are registered in EHIS, reaching a broad base of the 454,711 learners engaging in continuing education annually.

Dimension Scores

1. POLICY & RECOGNITION (24/25)

- **National definition:** Yes. Formally defined in the Adult Education Act as a verified set of knowledge and skills necessary for the labour market, with a mandated volume of 5 to 30 ECTS.
- **Legal/regulatory framework**: 3/3. Highly robust. Governed by the Adult Education Act and the Standard of Continuing Education, which require HAKA quality assessments for non-HEI providers wishing to issue official micro-credentials. Estonia distinguishes legally between university-level "micro-degrees" (at least 50% formal degree subjects) and general "micro-credentials".
- **Integration into NQF**: Yes. Micro-credentials align with the Estonian Qualifications Framework (EstQF) and occupational standards. They can be stacked and integrated into formal education through the Recognition of Prior Learning (VÕTA) system.
- **Public funding schemes**: Yes. State funding is increasingly tied to quality assurance; the Estonian Unemployment Insurance Fund (Töötukassa) restricts public funds to QA-assessed micro-credentials. Ecosystem development is also supported by the EU Just Transition Fund and ESF.
- **National strategy / roadmap:** Yes. Firmly embedded in the Education Strategy 2021–2035, the OSKA skills forecasting system, and the PRÕM+ development programme.

2. ECOSYSTEM & ADOPTION (23/25)

- **Number of issuing institutions**: High. Adoption is strong across the tertiary system; as of late 2025, 267 HEI programmes and 15 VET programmes were registered in EHIS, with private providers entering the market.
- **Major national initiatives**: The PRÕM+ programme (expanding VET and HE learning), the OsKuS project (modernising skills forecasting), and the national roll-out of the amended Adult Education Act.
- **Industry involvement**: 3/3. Strong. The OSKA system heavily integrates labour market forecasting into curriculum design, and platforms like "Koolituskrediit" facilitate direct B2B purchasing of university micro-credentials by employers.
- **Platform presence**: EHIS acts as the mandatory state discovery and registry platform, while independent initiatives like Koolituskrediit actively broker courses.
- **Public-private partnerships**: Extensive. State agencies actively coordinate with private training providers, and new QA laws encourage high-quality private sector participation.

3. **INFRASTRUCTURE & STANDARDS (18/20)**

- **Use of digital credential standards**: Scaled. ECTS is the mandated standard for calculating workload. Digital certificates are already operational in major institutions (e.g., University of Tartu).
- **National credential infrastructure**: Robust. The EHIS system serves as the mandatory, centralized infrastructure for registering approved curricula and logging all issued micro-credential certificates.
- Alignment with EU frameworks: Strong. The Estonian legal framework was explicitly designed to align with the 2022 EU Council Recommendation on micro-credentials and the European Skills Agenda.
- Verification systems: Strong. Employers and foreign institutions can use EHIS to reliably verify if a programme has passed state quality assurance and if a valid certificate was issued.
- **Data portability**: Maturing. The state is actively developing dedicated IT solutions for e-certificates within EHIS to improve data portability and interoperability with tools like Europass.

4. **USAGE & MARKET PENETRATION (22/30)**

- **Number of digital credentials issued annually**: Currently tracking over 280 officially registered programmes (including 230 micro-degrees), reaching part of the 454,000+ continuous education learners.
- **Learner participation rates**: Exceptionally high. 21% of Estonian adults participate in lifelong learning, compared to the EU average of 12%.
- **Employer recognition**: Growing rapidly. State backing and EHIS registration provide a trusted quality guarantee for employers, though continuous efforts are needed to ensure the value of these credentials is fully understood in hiring.
- **Sector penetration**: Highest in Management and Administration (37 programmes), Teacher Training (35 programmes), and Software/ICT (16 programmes), followed by Environmental Sciences.
- **Growth trend (3–5 years)**: Exponential. With the new legal framework taking effect and HAKA assessing private providers, a massive expansion of officially registered courses is expected beyond 2026.

Gaps

- **Terminology and Transition Confusion**: While the law clarifies the distinction between "micro-degrees" and "micro-credentials", certificates issued by private providers before the new law takes effect are not registered in EHIS, creating a risk of confusion among learners and employers regarding validity during the transition.
- **Financial Barriers**: Micro-credentials in Estonia are predominantly fee-based (often costing 30–120% of the average monthly gross wage), which poses a significant accessibility barrier for lower-income learners without employer or state subsidies.

Opportunities

- **Integration with European Digital Wallets**: Further integration of EHIS e-certificates with European tools (like Europass) and digital wallets can vastly improve cross-border verification, learner mobility, and stackability.

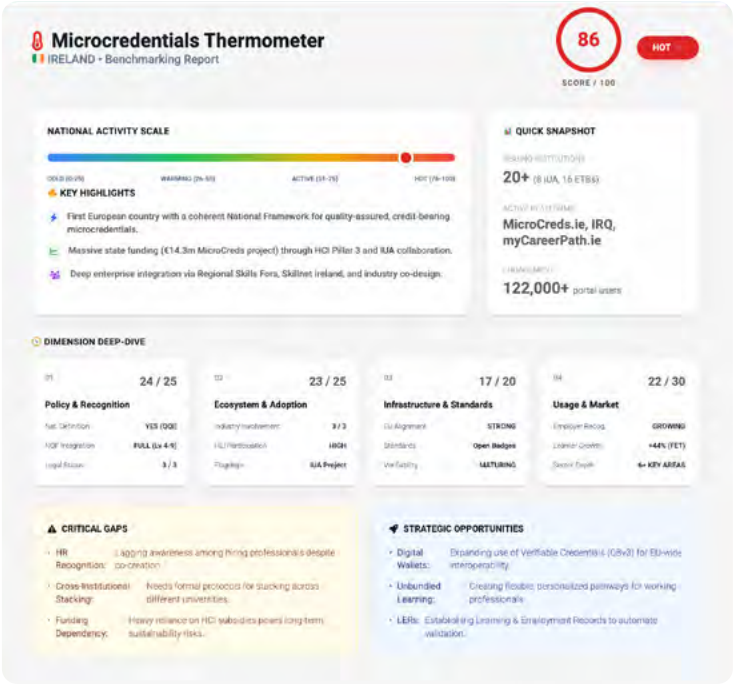
- **Private Sector Scaling:** The newly established HAKA quality assessment pathway for private continuing education providers (over 1,400 registered) offers a massive opportunity to scale high-quality, agile, and labour-market-relevant micro-credentials beyond formal HEIs.

Annex B.9 - Ireland

Ireland offers the clearest national coordination model in Europe. QQI and the National Framework of Qualifications support accredited minor, special-purpose and supplemental awards; the €14.3 million MicroCreds project, MicroCreds.ie and learner subsidies have enabled more than 600 microcredentials and over 20,000 learners. Regional Skills Fora and Skillnet Ireland embed enterprise participation. The next challenge is sustainable funding beyond pilots, broader HR recognition and seamless stacking across institutions.

86/100	Policy	Ecosystem	Infrastructure	Usage
HOT	24/25	23/25	17/20	22/30

Diagnostic snapshot



Country **Ireland**

Temperature Score **86/100 (Hot 🔴)**

Key Highlights

- Ireland is the first European country to establish a coherent National Framework for quality-assured and accredited microcredentials.
- Massive state funding and collaboration through the Human Capital Initiative (HCI) and the €14.3 million MicroCreds project led by the Irish Universities Association (IUA).
- High integration with enterprise through Regional Skills Fora, Skillnet Ireland, and an Enterprise Advisory Group.

Snapshot

- **Issuing institutions**: 20+ (Including 8 IUA universities, multiple Technological Universities, and 16 Education and Training Boards),.
- **Platforms active**: MicroCreds.ie, myCareerPath.ie, Irish Register of Qualifications (IRQ),,.
- **Annual credentials**: 20,000+ learners impacted via MicroCreds alone; over 600 microcredentials developed.

Dimension Scores

1. **POLICY & RECOGNITION (24/25)**

   - **National definition**: Yes. Defined formally by Quality and Qualifications Ireland (QQI) and the IUA as credit-bearing learning between 1 and 30 ECTS, aligned to specific levels of the National Framework of Qualifications (NFQ),.
   - **Legal/regulatory framework**: 3/3. Governed by QQI under the Qualifications and Quality Assurance Act 2012.
   - **Integration into NQF**: Yes. Microcredentials are fully integrated into the Irish NFQ as Minor, Special Purpose, or Supplemental awards at Levels 6 to 9 in Higher Education, and Levels 4 to 6 in Further Education and Training (FET),,,.
   - **Public funding schemes**: Yes. Heavily funded via the National Training Fund, HCI Pillar 3, Springboard+, and a dedicated Learner Fee Subsidy providing 50-80% off tuition for targeted skills,,.
   - **National strategy / roadmap**: Yes. Embedded in the National Skills Strategy 2025, Project Ireland 2040, and the Future Jobs Ireland initiative.

2. **ECOSYSTEM & ADOPTION (23/25)**

   - **Number of issuing institutions**: Highly adopted across the tertiary system, including 8 core universities in the MicroCreds project, Technological Universities (e.g., TU Dublin, ATU), and the 16 ETBs,.
   - **Major national initiatives**: The IUA MicroCreds Project, SOLAS FET Micro-Qualifications under “Skills to Advance”, and various HCI Pillar 3 projects (e.g., Cyber Skills, DASBE, IKC3),,.
   - **Industry involvement**: 3/3. Enterprise partners are deeply involved in co-designing curricula to address specific skills shortages (e.g., in renewable energy, digital transformation, and medical devices),,.
   - **Platform presence**: High. The MicroCreds.ie portal functions as a single, trusted “shopfront” for university-accredited short courses.
   - **Public-private partnerships**: Extensive collaboration via Skillnet Ireland, IDA Ireland, Enterprise Ireland, and the Regional Skills Fora,,.

3. **INFRASTRUCTURE & STANDARDS (17/20)**

   - **Use of digital credential standards**: Scaled. While traditional ECTS credits are the backbone of accreditation, digital Open Badges are actively used by initiatives like the Open Courses Initiative, All Aboard, and the N-TUTORR framework,,.
   - **National credential infrastructure**: Robust. The MicroCreds.ie discovery platform and the Irish Register of Qualifications (IRQ) provide centralized infrastructures,.
   - **Alignment with EU frameworks**: Strong. The Irish framework explicitly aligns with the 2022 EU Council Recommendation on Micro-credentials, and projects are integrated with Europass solutions,,.
   - **Verification systems & Data portability**: Maturing. Learners own their credentials and can share them. Work is currently underway to establish cross-institutional frameworks to allow microcredentials to stack seamlessly across different universities.

4. USAGE & MARKET PENETRATION (22/30)

- **Number of digital credentials issued annually**: 1,542 microcredentials (<30 ECTS) were listed on the IRQ by October 2023, with over 20,000 learners having engaged via the IUA MicroCreds initiative.
- **Learner participation rates**: The government subsidy targets almost 14,000 learners for 2024-2025 alone. MicroCreds.ie has attracted 122,000 users.
- **Employer recognition**: Growing, but challenges remain. While employers co-design courses and highly value them for CPD, surveys show some HR professionals still rarely encounter them on formal job applications and express uncertainty regarding their value compared to traditional degrees,,.
- **Sector penetration**: Very high in priority areas including Green/Renewable Energy, ICT, Cybersecurity, Biopharma, and Construction/Retrofitting,,.
- **Growth trend (3–5 years)**: Exponential. The FET sector alone saw a 44% increase in special-purpose awards from 2022 to 2023, driven by state funding and rapid digitalization.

Gaps

- **Employer Awareness**: Despite co-creation, broader HR awareness and explicit recognition of microcredentials in formal hiring processes lag behind,.
- **Cross-Institutional Stackability**: While internal stacking toward major awards is well-established, seamless stacking of microcredentials across different institutions requires further protocol development,,.
- **Funding Dependency**: Current high uptake is heavily supported by temporary government subsidies (e.g., the HCI learner fee subsidy ending post-2025), posing a potential risk to long-term sustainability if external funding drops,.

Opportunities

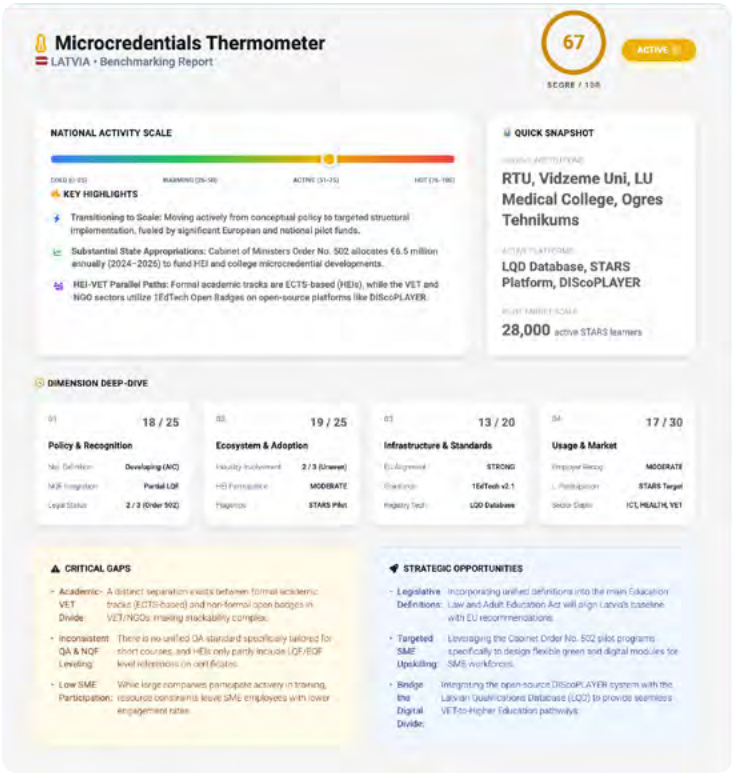
- **Expansion of Digital Wallets and LERs**: Expanding the use of Verifiable Credentials (like Open Badges v3) and Learning and Employment Records (LERs) can make Irish microcredentials universally verifiable and interoperable across Europe,,.
- **Unbundled Lifelong Learning**: Using microcredentials to create completely flexible, personalized pathways allows working professionals to upskill without committing to full degree programs, directly addressing national skills shortages.

Annex B.10 - Latvia

Latvia is moving from policy design into funded implementation. Cabinet Order No. 502 supports a national higher-education pilot with €6.5 million annually from 2024 to 2026; the STARS platform supports individual learning accounts and training for 28,000 employed people. Riga Technical University and other HE and VET providers are piloting credentials, while DIScoPLAYER applies Open Badges. The main weaknesses are an academic–VET divide, partial LQF referencing, inconsistent quality assurance and low participation by SMEs.

67/100	Policy	Ecosystem	Infrastructure	Usage
ACTIVE	18/25	19/25	13/20	17/30

Diagnostic snapshot



Country **Latvia**

Temperature Score **67/100 (Active)**

Key Highlights

- Latvia is actively transitioning microcredentials from conceptual policy to practical implementation, driven by significant state funding and international European projects.
- A major structural shift is underway via Cabinet of Ministers Order No. 502, allocating €6.5 million annually (2024–2026) to fund a national microcredentials pilot project across state applied sciences universities and colleges.
- There is a distinct, parallel development track between formal academic microcredentials in higher education (HEIs) and non-formal open badges in Vocational Education and Training (VET) and NGO sectors.

Snapshot

- **Issuing institutions**: Growing network including Riga Technical University (RTU), Vidzeme University of Applied Sciences, LU Medical College, Ogres Tehnikums, and Zemgale NGO Centre.
- **Platforms active**: Latvian Qualifications Database (LQD), STARS platform (for Individual Learning Accounts), and the open-source DIScoPLAYER (DcP) portal for open badges.
- **Annual credentials**: Entering the scale-up phase. The unified STARS platform is currently supporting training for 28,000 employed individuals (including 14,000 with low educational attainment), and first cohorts are graduating from specialized HEI microcredential programs.

Dimension Scores

1. POLICY & RECOGNITION (18/25)

- **National definition**: Developing. While the 2021 Academic Information Centre (AIC) study established baseline definitions aligned with the 2022 EU Council Recommendation, Latvia does not yet have a unified legal definition explicitly embedded across all national education laws.
- **Legal/regulatory framework**: 2/3. Governed broadly by the Ministry of Education and Science (IZM) and the AIC. Amendments to the Vocational Education Law have introduced modular principles that conceptually support microcredentials, and Cabinet Order No. 502 provides the financial regulatory framework for HEI pilots.
- **Integration into NQF**: Partial. While the Latvian Qualifications Framework (LQF) can accommodate learning outcomes, currently, HEIs only "partly" include references to the LQF/EQF levels on the certificates they award, hindering seamless stackability.
- **Public funding schemes**: High. Substantial state budget appropriations of €6.5 million annually (2024-2026) are dedicated to the national pilot project.
- **National strategy / roadmap**: Yes. Embedded in the transition toward a reformed higher education institutional funding model starting in 2026, and supported by the "Micro-credentials in Latvia" study.

2. ECOSYSTEM & ADOPTION (19/25)

- **Number of issuing institutions:** Expanding through pilots. Includes major universities (e.g., RTU, Vidzeme University) and prominent VET providers (e.g., Ogres Tehnikums).
- **Major national initiatives:** The National Micro-credentials Pilot Project, the Civil Service Digital Transformation Program by RTU, the Clinical Psychiatry Specialization Program, and Erasmus+ funded projects like DISCO VET and DISCO SMS.
- **Industry involvement:** 2/3. Large companies are highly active (nearly 30% of employees in large firms participate in training) and RTU co-designs modules with industry partners. However, engagement in small and medium-sized enterprises (SMEs) remains significantly lower.
- **Platform presence:** Developing. The STARS platform consolidates adult learning opportunities, while the DIScoPLAYER portal is being piloted for issuing and validating digital open badges.

- **Public-private partnerships:** Evident through sector-specific collaborations, such as the LU Medical College partnering with the National Mental Health Center.

3. **INFRASTRUCTURE & STANDARDS (13/20)**

   - **Use of digital credential standards**: Scaled within VET/NGOs. Non-formal credentials heavily utilize the 1EdTech Open Badge Standard (v2.1) through projects like DISCO SMS. Higher education relies more traditionally on ECTS.
   - **National credential infrastructure**: Maturing. The Latvian Qualifications Database (LQD) catalogs formal qualifications, and guidelines from the OCTRA 2 project direct HEIs on publishing five core metadata elements for transparency.
   - **Alignment with EU frameworks**: Strong. The policy framework actively adopts the 2022 EU Council Recommendation and utilizes tools from the STACQ project (e.g., the "Micro-Evaluator").
   - **Verification systems & Data portability**: Fragmented. While platforms like DIScoPLAYER handle verification for open badges, the lack of uniform quality assurance (QA) standards from quality agencies for short courses limits universal data portability and cross-institutional stackability.

4. **USAGE & MARKET PENETRATION (17/30)**

   - **Number of digital credentials issued annually**: Proxies indicate rapid growth. While historically HEIs had not commenced issuing digital credentials systematically, the current STARS platform rollout reaching 28,000 learners and the graduation of specialized cohorts (like RTU's public sector leaders) indicate surging issuance.
   - **Learner participation rates**: Mixed. Over 80% of Latvian adults highly value non-formal education for their professional work, but only 6% engage in formal adult education (below the OECD average of 8%). The primary barrier cited is a lack of appealing, flexible options.
   - **Employer recognition**: Moderate. Employers heavily prioritize job-ready skills, but the lack of unified legal definitions and QA standards makes it difficult for employers to assess the credibility of some alternative credentials.
   - **Sector penetration**: High in specific areas including Public Administration/Civil Service, Healthcare (Psychiatry), IT/Digital Transformation, and VET teacher training.
   - **Growth trend (3–5 years)**: High upward trajectory, directly tied to the €6.5 million annual state funding running through 2026 to prepare for the new institutional funding model.

Gaps

- **Lack of Standardized Legal Definitions**: There is no unified legal definition of microcredentials and open badges embedded across national education laws, creating uncertainty regarding their formal status.
- The Academic-VET Divide: There is a distinct split between formal academic microcredentials (university-led, credit-bearing, ECTS-based) and non-formal open badges (VET/NGO-led, soft-skills oriented). Stacking non-formal badges into formal HEI pathways remains a major challenge.

- Inconsistent Quality Assurance and NQF Leveling: There is no unified QA standard specifically tailored for short courses, and HEIs only "partly" reference LQF/EQF levels on certificates, which restricts domestic and international comparability and stackability.
- Low SME Participation: While large firms train actively, employees in SMEs face resource constraints, highlighting a gap in the reach of current lifelong learning programs.

Opportunities

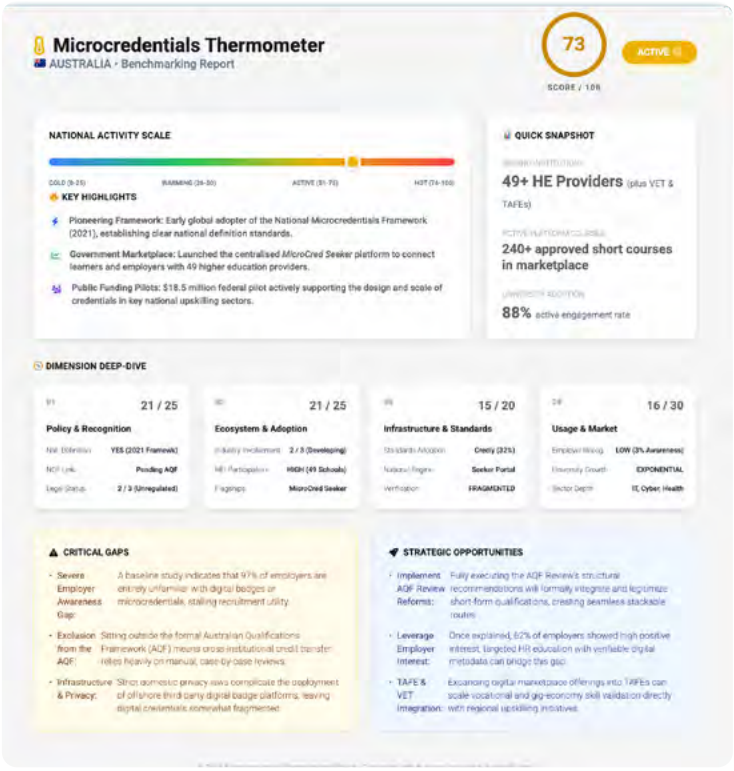
- **Incorporate Unified Definitions** into Legislation: The Ministry of Education and Science can introduce clear definitions into the Education Law and Adult Education Act, aligning the legal baseline with the 2022 EU Council Recommendation.
- **Target SME Upskilling**: Utilizing the dedicated funding from Cabinet Order No. 502 to design flexible, modular programs specifically tailored for SME employees-focused on digital and green skills-can directly address participation barriers.
- **Bridge the HEI-VET Digital Credential Divide**: Expanding the Recognition of Prior Learning (RPL) framework and integrating open-source digital badge systems (like DIScoPLAYER) with the Latvian Qualifications Database can create seamless stacking pathways between VET and higher education.
- **Implement Standardized QA and NQF Leveling**: The Quality Agency for Higher Education (AIC-DEP) can issue unified QA standards and learning-outcomes-based criteria to assign LQF/EQF levels to all microcredentials, building vital trust among employers and academic evaluators.

Annex B.11 - Australia

Australia was an early adopter of a National Microcredentials Framework and created the MicroCred Seeker marketplace with 49 higher-education providers. A federal $18.5 million pilot supported provision in national priority areas. The model demonstrates the value of a common information standard and discovery platform, but credentials remain outside the AQF, cross-provider credit is inconsistent and employer familiarity is reported as very low.

73/100	Policy	Ecosystem	Infrastructure	Usage
ACTIVE	21/25	21/25	15/20	16/30

Diagnostic snapshot



Country: Australia

Temperature Score: 73/100 (Active)

Key Highlights

- **Pioneering Framework**: Early global adopter of a National Microcredentials Framework (2021) which established a national definition and critical information standards.
- **Government-Backed Marketplace**: Launch of the MicroCred Seeker platform, a national marketplace connecting learners, employers, and 49 higher education providers.
- **Strong Funding Pilot**: $18.5 million committed by the Federal Government to fund the design and delivery of microcredentials in national priority areas.
- **Remaining Friction**: Despite policy leadership, microcredentials remain officially outside the Australian Qualifications Framework (AQF), and employer awareness remains critically low.

Snapshot

- **Issuing institutions**: 49+ higher education providers participating in the national platform, alongside numerous VET providers, TAFEs, and private entities.

- **Platforms active**: MicroCred Seeker (National Marketplace), RMIT Creds, DeakinCo, and third-party credentialing engines like Credly's Acclaim (used by 32% of universities).
- **Annual credentials**: Over 240 approved short courses on the national platform; government pilot aims to support delivery to up to 4,000 students.

Dimension Scores

1. **POLICY & RECOGNITION (21/25)**
   (Increased to reflect the National Framework)
   - **National definition**: Yes. The National Framework defines them as a certification of assessed learning with a minimum volume of one hour, which is less than an AQF award qualification.
   - **Legal/regulatory framework**: 2/3. Guided by the National Microcredentials Framework, but microcredentials themselves are officially unregulated and institutions determine their own policies for recognition.
   - **Integration into NQF**: No. Presently, microcredentials sit outside the formal Australian Qualifications Framework (AQF).
   - **Public funding schemes**: Yes. The Microcredentials Pilot in Higher Education committed $18.5 million.
   - **National strategy / roadmap**: Yes. Embedded in the National Microcredentials Framework and initiatives for rapid workforce reskilling.
2. **ECOSYSTEM & ADOPTION (21/25)**
   - **Number of issuing institutions**: High. 49 higher education providers joined the MicroCred Seeker launch, with significant VET sector participation (e.g., TAFE Digital).
   - **Major national initiatives**: The Microcredentials Pilot in Higher Education (funding courses across two rounds) and the MicroCred Seeker Marketplace.
   - **Industry involvement**: 2/3. Often co-designed with industry (e.g., DeakinCo.'s professional practice credentials), but overall industry alignment is still developing.
   - **Platform presence**: High. Centralised via MicroCred Seeker, alongside institutional platforms.
   - **Public-private partnerships**: Developing. Incentives exist for businesses to invest in training, and providers actively collaborate with industry.
3. **INFRASTRUCTURE & STANDARDS (15/20)**
   - **Use of digital credential standards**: Maturing. Around 32% of higher education institutions use a credentialing engine (most commonly Credly's Acclaim).
   - **National credential infrastructure**: Strong. The MicroCred Seeker platform acts as a centralized comparison tool for short courses and credit point values.
   - **Verification systems & Data portability**: Fragmented. A sector-wide standardized unit of exchange is currently not feasible due to the varying maturity levels of credentials across providers. Furthermore, strict privacy legislation has complicated the use of offshore third-party digital badge platforms.

4. **USAGE & MARKET PENETRATION (16/30)**
(Score suppressed heavily by employer awareness gaps)

- **Learner participation rates:** Growing rapidly. The proportion of universities with "non-existent" microcredential adoption plummeted from 27% to 12% in just one year.
- **Employer recognition:** Low. A major study found that 97% of surveyed employers were unfamiliar with the concept of digital badges/microcredentials. However, 62% expressed positive interest in using them once the concept was explained to them.
- **Sector penetration:** High in national priority fields, including IT/Cybersecurity, Health, Engineering, and Education.
- **Growth trend (3–5 years):** Exponential growth expected across both Higher Education and VET sectors to address gig-economy demands and rapid technological change.

Gaps

- **Employer Awareness**: There is a severe lack of baseline knowledge among employers; 97% are unfamiliar with digital badges, which drastically limits their current utility in formal recruitment and hiring.
- **AQF Integration & Standardised** Credit: Because microcredentials remain outside the formal AQF, and there is no universally adopted credit value or "unit of exchange" across the sector, portability between different institutions relies heavily on case-by-case institutional policies.

Opportunities

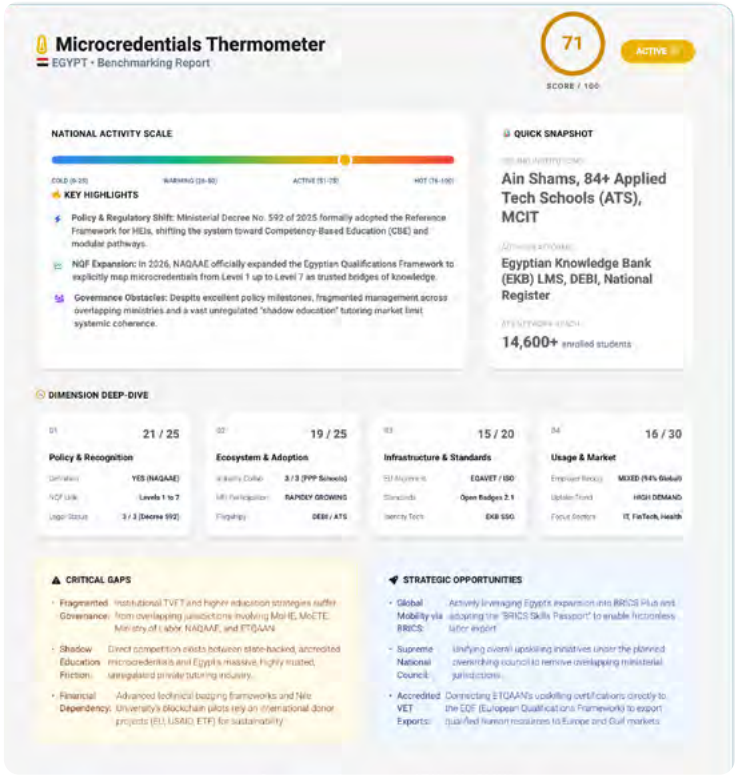
- **AQF Reform Implementation**: Formally adopting the 2019 AQF Review recommendations to integrate shorter-form credentials could officially legitimize the ecosystem and ensure seamless stackability.
- **Employer Education**: By actively educating HR professionals and utilizing digital credentials that clearly display verifiable metadata (skills developed, issuer, date), the sector can convert the high employer curiosity (62% interest) into active hiring practices.

Annex B.12 - Egypt

Egypt's recent reforms have moved microcredentials into a competency-based higher-education and qualifications agenda. Ministerial and presidential instruments, NAQAAE's expanded NQF, the Egyptian Knowledge Bank, Digital Egypt Builders and the Applied Technology Schools network create scale and strong public-private involvement. The main risks are fragmented governance across ministries, uneven local employer trust, dependence on donor-supported infrastructure and competition with a large unregulated supplementary-education market.

71/100	Policy	Ecosystem	Infrastructure	Usage
ACTIVE	21/25	19/25	15/20	16/30

Diagnostic snapshot



Country **Egypt**

Temperature Score **71/100 (Active 🟡)**

Key Highlights

- **Policy & Regulatory Shift**: The issuance of Ministerial Decree No. 592 of 2025 formally adopted the Reference Framework for Higher Education, officially moving the system toward Competency-Based Education (CBE) and integrating microcredentials into academic pathways.
- **National Qualifications Framework (NQF) Expansion**: In 2026, the National Authority for Quality Assurance and Accreditation of Education (NAQAAE) expanded the NQF to explicitly include microcredentials, mapping them from Level 1 to Level 7 as recognized "bridges of knowledge" for the labor market.
- **Governance & Systemic Challenges**: Despite strong policy foundations, fragmented governance across multiple ministries (MoHE, MoETE, Ministry of Labor) and the massive unregulated "shadow education" (private tutoring) sector present significant integration hurdles.

Snapshot

- **Issuing institutions**: Multiple key entities including Ain Shams University, 84+ Applied Technology Schools (ATS), and the Ministry of Communications and Information Technology (MCIT).
- **Platforms active**: Egyptian Knowledge Bank (EKB) LMS, Digital Egypt Builders Initiative (DEBI), and the Egyptian National Qualifications Register.
- **Annual credentials**: Rapidly scaling into the tens of thousands, driven heavily by DEBI tech-tracks and the expanding ATS network (which currently enrolls over 14,600 students).

Dimension Scores

1. POLICY & RECOGNITION (21/25)

- **National definition**: Yes. Defined by NAQAAE as short-term certifications focused on specific skills and competencies, acting as the "currency of the future" in the labor market.
- **Legal/regulatory framework**: 3/3. Governed by Ministerial Decree No. 592 of 2025 and Presidential Decree-Law No. 160 of 2022, which established ETQAAN for quality assurance in technical and vocational programs.
- **Integration into NQF**: Yes. Microcredentials are fully integrated into the 8-level Egyptian NQF, spanning from Level 1 (early vocational modules) to Level 7 (high-level professional micro-certifications).
- **Public funding schemes**: Yes. Heavily supported by state initiatives like the MCIT's Digital Egypt strategy, along with substantial international donor funding (EU, ETF, USAID).
- **National strategy / roadmap**: Yes. Embedded deeply in the National Strategy for Higher Education and Scientific Research 2030, Egypt Vision 2030, and the Technical Education 2.0 (TE 2.0) strategy.

2. ECOSYSTEM & ADOPTION (19/25)

- **Number of issuing institutions**: Growing rapidly. Core adopters include leading universities like Ain Shams, MCIT training programs, and 84 Public-Private Partnership (PPP) Applied Technology Schools.
- **Major national initiatives**: Digital Egypt Builders Initiative (DEBI), the Egyptian Knowledge Bank (EKB), and the Applied Technology Schools (ATS) network.
- **Industry involvement**: 3/3. Industry partners are deeply embedded, particularly in the ATS system and FinTech, co-designing curricula to ensure immediate market relevance.
- **Platform presence**: High. The Egyptian Knowledge Bank (EKB) acts as a digital ecosystem hub, utilizing Single Sign-On (SSO) to provide a unified digital identity for secure credential tracking.
- **Public-private partnerships**: Extensive. The ATS model relies on corporate sponsors who co-manage schools with the Ministry of Education and Technical Education (MoETE).

3. INFRASTRUCTURE & STANDARDS (15/20)

- **Use of digital credential standards**: Scaled. The ecosystem is aligning with Open Badges 2.0 and 2.1 standards, incorporating embedded evidence and third-party endorsements.

- **National credential infrastructure**: Robust and developing, centered around the Egyptian National Qualifications Register and EKB's Learning Management Systems.
- **Alignment with EU frameworks**: Strong. ETQAAN's accreditation standards are actively aligned with ISO specifications and European frameworks like EQAVET to ensure global recognition.
- **Verification systems**: Maturing. Emerging systems, like Nile University's proposed International Employment Certificate, are testing blockchain-based verification and unique QR codes to eliminate fraud.
- **Data portability**: Expanding. Cross-border portability is being championed through initiatives like the BRICS Skills Passport.

4. **USAGE & MARKET PENETRATION (16/30)**

- **Number of digital credentials issued annually**: Expanding quickly. While precise national totals are still aggregating, platforms like DEBI and the ATS network are issuing thousands of verifiable badges.
- **Learner participation rates**: Extremely high demand. For instance, ATS programs recently saw 40,000 applicants for only 8,000 available places.
- **Employer recognition**: Growing but nuanced. While global/multinational employers highly value them (94% willing to offer higher starting salaries), local HR professionals still exhibit some skepticism regarding the "legitimacy" of purely digital providers.
- **Sector penetration**: Very high in Information Technology (AI, Cybersecurity), FinTech, Healthcare Informatics, Manufacturing, and Renewable Energy.
- **Growth trend (3–5 years)**: Exponential. Driven by the recent activation of the NQF in 2026 and the shift from "third generation" to "fourth generation" university models.

Gaps

- **Fragmented Governance**: The TVET and higher education sectors suffer from overlapping jurisdictions involving the Ministry of Higher Education, MoETE, Ministry of Labor, NAQAAE, and ETQAAN, complicating system coherence.
- **Shadow Education Conflict**: There is notable tension between the state's push for formal, accredited microcredentials and the massive, unregulated private supplementary tutoring ("shadow education") market.
- **Funding Dependency**: The technical infrastructure for digital badging and blockchain verification relies heavily on international donor funding, necessitating a shift toward sustainable domestic financial models.

Opportunities

- **Global Labor Mobility via BRICS**: Egypt's integration into the BRICS Plus network and the adoption of the "BRICS Skills Passport" offer unprecedented cross-border portability, allowing credentials earned in Cairo to be recognized seamlessly in major global economies.
- **Supreme National Council for Education and Training**: The planned establishment of this overarching council presents a critical opportunity to unify governance, harmonize credential strategies across all ministries, and eliminate institutional fragmentation.
- **Exporting Accredited Skills**: By aligning ETQAAN standards with the European Qualifications Framework (EQF), Egypt can successfully export its micro-credentialed workforce to fulfill acute labor shortages in Europe and the Gulf states.

Annex B.13 - Kenya

Kenya combines an emerging national framework with rapid modularisation of TVET. The National Micro-Credentials Framework was being prepared for approval and rollout in 2026, while enrolments from May 2025 moved to modular, competency-based curricula. Ajira Digital has reached more than 500,000 young people, and NAQIMS provides a qualification infrastructure. Employer organisations and professional bodies are active, but full legal consolidation, portable digital standards and sustainable implementation are still in progress.

75/100	Policy	Ecosystem	Infrastructure	Usage
ACTIVE	19/25	21/25	15/20	20/30

Diagnostic snapshot

Country **Kenya**

Temperature Score **75/100 (Active 🟡)**

Key Highlights

- Kenya is making significant strides by finalizing its **National Micro-Credentials Framework**, scheduled for approval in July 2026 and rollout in September 2026, in strategic partnership with the Kenya National Qualifications Authority (KNQA), the International Labour Organization (ILO), and the Commonwealth of Learning (COL).
- A major policy shift in the Technical and Vocational Education and Training (TVET) sector mandated that all enrolments from May 2025 follow **modularized**, **competency-based curricula**, effectively transforming traditional long-term programs into stackable "units of competency" that function as microcredentials.
- Massive public-private upskilling initiatives like the Ajira Digital Program have successfully equipped over 500,000 Kenyan youth with digital work skills, driving a strong culture of short-term, job-ready certification.

Snapshot

- **Issuing institutions**: Growing rapidly. Pioneers include Open University of Kenya (OUK), Mount Kenya University (MKU), Strathmore University, Jomo Kenyatta University of Agriculture and Technology (JKUAT), and various TVET institutions.
- **Platforms active**: Credly, Accredible, National Qualifications Information Management System (NAQIMS), and Institutional Learning Management Systems.
- **Annual credentials**: Scaling exponentially due to the mandatory TVET modularization policy and large-scale government ICT programs (e.g., >500,000 participants in Ajira Digital).

Dimension Scores

1. POLICY & RECOGNITION (19/25)

- **National definition**: In Progress. Formal definitions, standards, and system architecture are being solidified under the upcoming National Micro-Credentials Framework.
- **Legal/regulatory framework**: 2/3. Rooted in the KNQF Act (Cap. 214) and the Kenya Standard DKS-3048, which outlines requirements for the quality assurance of qualifications.
- **Integration into NQF**: Yes. Kenya currently maps part-qualifications and short courses within the Kenya National Qualifications Framework (KNQF) at levels 3 and 4, which establishes a strong foundation for full microcredential integration.
- **Public funding schemes**: Yes. Government backing is primarily channeled through youth employability and digital literacy programs, such as the Ajira Digital initiative.
- **National strategy / roadmap**: Yes. The transition is anchored in Kenya Vision 2030, the Bottom-Up Economic Transformation Agenda (BETA), and the Ministry of Education's mandate to align all university programs with Competency-Based Education and Training (CBET) by 2029.

2. ECOSYSTEM & ADOPTION (21/25)

- **Number of issuing institutions**: Expanding. MKU leads with a dedicated policy (UP19/4) for stackable credit-bearing microcredentials, while OUK provides virtual, lifelong learning certifications.
- **Major national initiatives**: The KNQA National Micro-Credentials Framework development, the nationwide TVET CBET rollout, and the Presidential Digital Talent Programme (PDTP).
- **Industry involvement**: 3/3. The Federation of Kenya Employers (FKE) and the Kenya Private Sector Alliance (KEPSA) actively advocate for skills-based learning to combat hard-to-fill vacancies, ensuring TVET modules are co-designed with industry experts.
- **Platform presence**: Strong. Institutions like Strathmore University utilize platforms like Credly and Accredible for verifiable digital badges, while the government uses the NAQIMS portal to manage qualifications.
- **Public-private partnerships**: Extensive. KEPSA collaborates with the Ministry of ICT and Mastercard Foundation for the Ajira Digital Program, and universities partner with professional bodies like the Chartered Institute of Marketing (CIM).

3. **INFRASTRUCTURE & STANDARDS (15/20)**

- **Use of digital credential standards**: Maturing. Early adopters like Strathmore University use the Open Badges Specification (JSON-LD), integrating cryptographic verification to prove learner competencies.
- **National credential infrastructure**: Robust. Kenya uses NAQIMS to automate the registration of Quality Assurance Institutions and act as a comprehensive database for part-qualifications.
- **Alignment with regional frameworks**: High. Kenya is aligning its standards with the East African Qualifications Framework for Higher Education (EAQFHE) and the African Continental Qualifications Framework (ACQF), facilitating the East African Credit Accumulation and Transfer (EACAT) system.
- **Verification systems & Data portability**: Emerging. While digital badging platforms provide immediate verification, the modular TVET system allows trainees to stack "units of competency" seamlessly toward full diplomas.

4. **USAGE & MARKET PENETRATION (20/30)**

- **Number of digital credentials issued annually**: Scaling massively, largely driven by the April 2025 directive that shifted all TVET vocational training into modularized formats.
- **Learner participation rates**: High among youth pursuing digital, agricultural, and vocational skills. However, widespread adoption is still hindered by a "digital divide" limiting internet and device access in rural communities.
- **Employer recognition**: Growing. 73.1% of surveyed enterprises utilize training to bridge skills gaps, showing a marked shift towards prioritizing verifiable, specific technical skills over traditional degrees.
- **Sector penetration**: Deepest in Technical/Vocational skills, ICT/Digital Literacy (e.g., ICDL), Manufacturing, Agriculture, and MSME Advisory.
- **Growth trend (3–5 years)**: Exponential. By late 2026, Kenya is projected to have one of the most sophisticated regulatory frameworks for modular learning in sub-Saharan Africa.

Opportunities

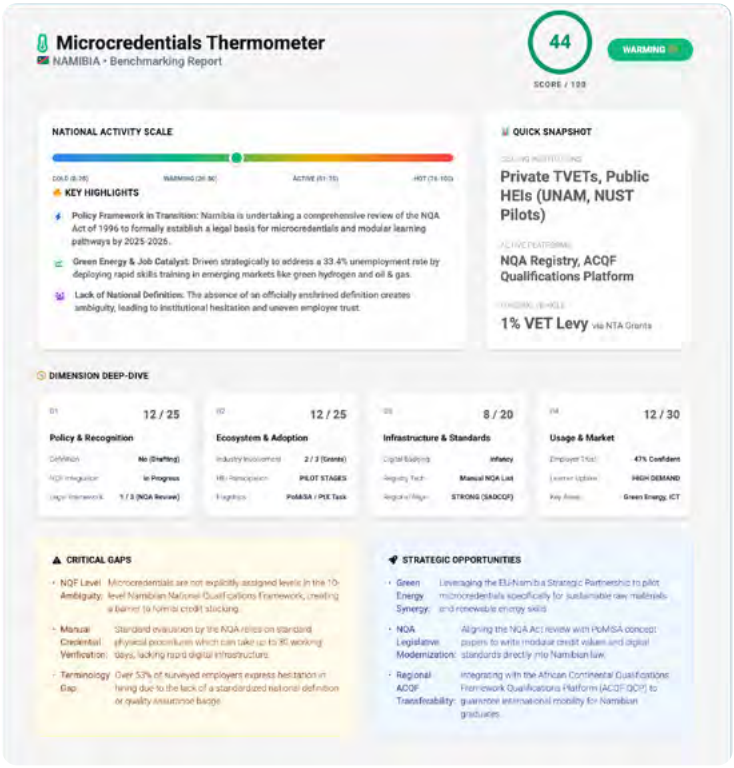
- **Formalizing the Informal Economy via RPL**: Microcredentials provide the perfect mechanism to document and validate the skills of millions of Kenyans working in the informal "Jua Kali" sector. Expanding the Recognition of Prior Learning (RPL) system using verifiable microcredentials can formally integrate these workers into the national economy.
- **Overcoming the Digital Divide**: Designing offline or low-bandwidth models for digital learning platforms and increasing investments in affordable smartphone access will be critical to ensuring that rural populations can access and earn microcredentials.
- **Regional Labor Mobility**: By leveraging the standardized credit system (EACAT) within the East African Qualifications Framework (EAQFHE), Kenyan microcredentials can be universally recognized across member states, creating a competitive regional education market and boosting cross-border employability.

Annex B.14 - Namibia

Namibia is using microcredentials as a response to unemployment and emerging green-hydrogen and energy needs. Review of the NQA Act, the PoMiSA initiative, the VET levy and Employer Training Grant, and work by UNAM, NUST and the Power-to-X Skills Task Force provide a foundation. However, there is no unified legal definition, NQF integration remains incomplete, national digital infrastructure is limited and employer recognition is constrained by fragmented provision.

44/100	Policy	Ecosystem	Infrastructure	Usage
WARMING	12/25	12/25	8/20	12/30

Diagnostic snapshot



Country **Namibia**

Temperature Score **44/100 (Warming)**

Key Highlights

- **Policy framework in transition**: Namibia is currently undertaking a comprehensive review of the Namibia Qualifications Authority (NQA) Act of 1996 and associated regulations (expected completion 2025-2026) to formally establish a legal basis for microcredentials and flexible learning pathways.
- **Driven by green energy and high unemployment**: The adoption of microcredentials is a strategic response to a 33.4% unemployment rate (32% among graduates) and the need for rapid skills deployment in emerging sectors like green hydrogen and oil & gas.
- **Absence of a unified national definition**: The lack of a formal definition and explicit National Qualifications Framework (NQF) inclusion currently creates ambiguity, leading to hesitation from higher education institutions and limiting employer recognition.

Snapshot

- **Issuing institutions**: Growing. Primarily driven by private training providers, Technical and Vocational Education and Training (TVET) institutions, and piloting public universities like the University of Namibia (UNAM) and the Namibia University of Science and Technology (NUST).
- **Platforms active**: Low platform presence. There is no dedicated national microcredentials marketplace, though the NQA maintains a register of accredited qualifications and Namibia participates in the continental ACQF Qualifications and Credentials Platform (QCP).
- **Annual credentials**: Unknown exact volume for microcredentials specifically, but high engagement in short courses is evidenced by the Namibia Training Authority's (NTA) Employer Training Grant (ETG) claims process.

Dimension Scores

1. POLICY & RECOGNITION (12/25)

- **National definition: No.** Namibia lacks a formal, legally enshrined definition for microcredentials, though the Potential of Microcredentials in Southern Africa (PoMiSA) project has developed national concept papers anticipated for NQA approval between 2025 and 2026.
- **Legal/regulatory framework: 1/3.** Currently reliant on outdated legislation, but an ongoing review of the NQA Act 29 of 1996 (spanning 2025-2026) aims to update the regulatory ecosystem to incorporate short courses, microcredentials, and digital pathways.
- **Integration into NQF: In progress.** Microcredentials currently lack explicit recognition in the 10-level NNQF legislation. However, the NTA's modular "unit standard" system allows for partial credits that can theoretically stack.
- **Public funding schemes: Yes.** The NTA collects a 1% Vocational Education and Training (VET) Levy from eligible employers. Through the Employer Training Grant (ETG), employers can claim funds for short, focused training programs that meet immediate sector needs.
- **National strategy / roadmap: Yes.** Microcredentials are tied to Vision 2030, the National Human Resource Development Strategy, and the Ministry of Higher Education, Technology and Innovation (MHETI) Strategic Plan (2025-2030).

2. ECOSYSTEM & ADOPTION (12/25)

- **Number of issuing institutions**: Uptake is currently fragmented. TVET institutions and private providers embrace short competency-based offerings, while Higher Education Institutions (HEIs) like UNAM and NUST are moving from policy advocacy to piloting specific modules.
- **Major national initiatives**: The EU-Namibia Strategic Partnership on Sustainable Raw Materials and Renewable Hydrogen provides technical assistance to the NTA to develop micro-certificates for the green transition. PoMiSA is actively building institutional capacity and frameworks.
- **Industry involvement: 2/3.** Industry engagement is incentivised through ETG grants. There is growing industry demand for modular courses in ICT, energy, and health to fill skills shortages.

- **Platform presence: Low.** Namibia lacks a consolidated digital discovery platform for microcredentials.
- **Public-private partnerships**: Evident in sector-specific domains, such as the National Power-to-X (PtX) Skills Task Force, which unites government, EU partners, and industry to register new competency standards.

3. **INFRASTRUCTURE & STANDARDS (8/20)**

- **Use of digital credential standards**: **Infancy**. Digital badging is currently more prevalent in the private and commercial networking spheres-such as First National Bank (FNB) issuing digital badges for "Women in Business"-than in formal academia.
- **National credential infrastructure**: **Developing**. The NQA relies on standard evaluation procedures that are often manual and time-consuming (taking up to 30 working days). The establishment of robust digital credit transfer systems is a key PoMiSA recommendation.
- **Alignment with EU/Regional frameworks**: **Strong**. Namibia is actively aligning its systems with the Southern African Development Community Qualifications Framework (SADCQF) roadmap (2023-2026) and participating in the African Continental Qualifications Framework (ACQF-II).
- **Verification systems & Data portability**: **Limited**. Cumbersome bureaucratic processes and limited data transparency hinder portability. However, the NQA evaluates domestic and foreign credentials based on strict notional learning hours (1 credit = 10 hours).

4. **USAGE & MARKET PENETRATION (12/30)**

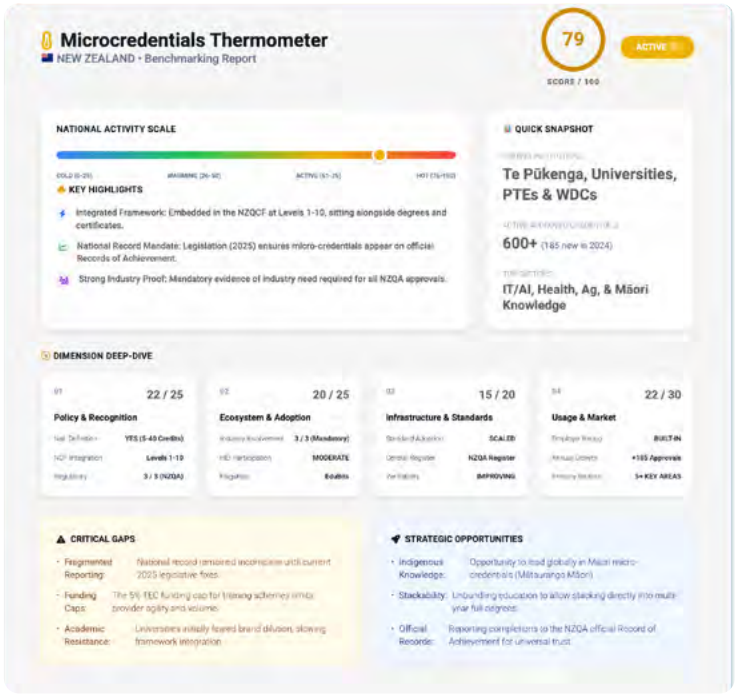
- **Number of digital credentials issued annually**: Not formally tracked as a distinct category yet, though over 23,658 general qualification evaluations have been processed historically by the NQA.
- **Learner participation rates**: Driven by necessity. High unemployment and a mismatch between university outputs and labour market needs push learners toward practical, short-term upskilling.
- **Employer recognition**: **Moderate to Low**. A major barrier is the lack of a universal definition, causing employer hesitation. Only 47% of surveyed stakeholders express confidence that employers fully recognise microcredentials.
- **Sector penetration**: Highest in the **Green Energy / Hydrogen** transition, **Oil and Ga**s (e.g., OPITO standards), and targeted pilots in **ICT**, **Health**, and **Tourism**.
- **Growth trend (3–5 years)**: **High potential**. Between 2025 and 2026, the completion of the NQA Act review, registration of green hydrogen competency standards, and the rollout of university pilots are expected to rapidly formalise and expand the market.

Opportunities

- **Leverage the Green Hydrogen Transition**: Utilize the EU-Namibia Strategic Partnership and European funding to pilot a fully operational, quality-assured microcredential ecosystem for green energy skills, setting a benchmark for other sectors.
- **Formalize the NQF Integration**: Accelerate the NQA Act review to explicitly embed microcredentials into the 10-level NNQF. Defining clear credit values, stackability rules, and quality assurance processes will directly solve the current lack of employer trust and institutional hesitation.

Annex B.15 - New Zealand

New Zealand fully embeds microcredentials in the NZQCF at levels 1–10 and requires demonstrable industry, employer or community need for approval. NZQA applies a 5–40 credit range and maintains a national register; around 600 approved microcredentials were reported, with 185 new approvals in 2024. The system is a strong example of quality assurance and stackability, while funding caps, incomplete historic reporting and concerns about institutional reputation remain areas for policy attention.

79/100	Policy	Ecosystem	Infrastructure	Usage
ACTIVE	22/25	20/25	15/20	22/30
Diagnostic snapshot				

Country **New Zealand**

Temperature Score **79/100 (Active 🟡)**

Key Highlights

- **Integrated Framework**: Micro-credentials are fully embedded into the newly updated New Zealand Qualifications and Credentials Framework (NZQCF) at Levels 1 to 10, enabling them to sit alongside traditional degrees and certificates.
- **National Record Mandate**: The New Zealand Government is advancing legislation (as of August 2025) to mandate that all micro-credential completions be reported to the New Zealand Qualifications Authority (NZQA), ensuring they are formally recognized on a learner's official 'Record of Achievement'.
- **Funding Caps**: A 5% cap on Tertiary Education Commission (TEC) funding for training schemes limits the volume of micro-credentials some providers can deliver, although exceptions and specific strategic funding streams exist.

Snapshot

- **Issuing institutions**: Delivered by Te Pūkenga (polytechnics), Wānanga, Universities, registered Private Training Establishments (PTEs), and Workforce Development Councils (WDCs).

- **Platforms active**: NZQA Register of Micro-credentials, Institutional platforms (e.g., EduBits by Otago Polytechnic), and standard LMS platforms issuing digital badges (e.g., Moodle).
- **Annual credentials**: 600 approved micro-credentials currently exist in the system, with 185 new approvals in 2024 alone.

Dimension Scores

1. **POLICY & RECOGNITION (22/25)**
   - **National definition**: Yes. Defined by NZQA as a credential that certifies the achievement of a specific set of skills and knowledge, carrying a credit value between 5 and 40 credits (approx. 50-400 notional hours of learning), with demonstrable evidence of need from industry, employers, or the community.
   - **Legal/regulatory framework**: 3/3. Governed by NZQA. Pending 2025 amendments to the Education and Training Act 2020 will legally cement micro-credentials into national reporting requirements.
   - **Integration into NQF**: Yes. Micro-credentials are included in the New Zealand Qualifications and Credentials Framework (NZQCF) and can be stacked into programmes leading to full qualifications.
   - **Public funding schemes**: Yes. Funded via the Tertiary Education Commission (TEC) under Delivery at Levels 1-2 (DQ1-2), DQ3-7, and DQ7-10 funds. However, TEC generally restricts micro-credentials to 5% of a provider's overall delivery funding, requiring special approval to exceed this cap.
   - **National strategy / roadmap**: Yes. Introduced as a pilot in 2018 and formally recognized through the ongoing Review of Vocational Education (RoVE) and NZQA system reforms.
2. **ECOSYSTEM & ADOPTION (20/25)**
   - **Number of issuing institutions**: High. Adopted across the tertiary sector, with PTEs and Polytechnics driving the largest volumes of new credentials.
   - **Major national initiatives**: Otago Polytechnic's EduBits is a flagship program offering over 120 micro-credentials. Various industry-specific pilots include partnerships with Udacity and the Young Enterprise Trust.
   - **Industry involvement**: 3/3. Mandatory. For NZQA approval, a micro-credential must have strong, demonstrable evidence of need from industry, employers, iwi, hapū, and/or the community.
   - **Platform presence**: Moderate. Many institutions utilize internal Learning Management Systems (like Moodle) to issue digital badges, though an overarching national digital wallet is still maturing.
   - **Public-private partnerships**: Strong. Workforce Development Councils (WDCs) and individual institutions partner directly with industries to build credentials tailored to workforce shortages.
3. **INFRASTRUCTURE & STANDARDS (15/20)**
   - **Use of digital credential standards**: Scaled. Over half of surveyed public tertiary institutions are using or planning to use digital badges to visually represent and share learning.

- **National credential infrastructure**: Robust registry. NZQA manages the central "Register of NZQA Listed and Approved Micro-credentials".
- **Alignment with EU frameworks**: N/A (Focus is on NZQCF and international parity). The framework maintains strict credit valuation and quality assurance mechanisms.
- **Verification systems**: Maturing. Historically, micro-credentials were not formally recorded centrally. The 2025 Education and Training Act amendments will require mandatory reporting to NZQA, formalizing centralized verification.
- **Data portability**: Improving. Integration into the NZQA "Record of Achievement" will drastically improve portability for learners moving between employers and institutions.

4. **USAGE & MARKET PENETRATION (22/30)**

- **Number of digital credentials issued annually**: Over 600 approved micro-credentials exist, with growth accelerating (127 new in 2023; 185 new in 2024; 60 new early into 2025).
- **Learner participation rates**: High in targeted areas. E.g., Otago Polytechnic's Te Reo Māori EduBit is cited as its most successful micro-credential to date.
- **Employer recognition**: Built-in. Because employer or community backing is a requirement for NZQA approval, market relevance is highly targeted towards upskilling and re-skilling.
- **Sector penetration**: Very high in Computer Science/IT/AI, Health and Wellbeing, Agriculture, Business and Commerce, and Food/Hospitality.
- **Growth trend (3–5 years)**: Rapid acceleration since the 2018 pilots, transitioning from experimental badges to fully integrated components of the national workforce strategy by 2025.

Gaps

- **Fragmented Reporting**: Until the 2025 legislative amendments are fully implemented, there has been a gap where micro-credentials were not automatically added to a learner's official NZQA Record of Achievement, meaning the national record remained incomplete.
- **Funding Caps and University Resistance**: The TEC's standard 5% funding cap on training schemes can limit provider agility. Furthermore, universities initially expressed strong resistance to including micro-credentials on the qualifications framework, fearing it would confuse international observers and dilute the reputation of full degrees.

Opportunities

- **Stackability for Lifelong Learning**: With the NZQCF explicitly allowing micro-credentials to be stacked into full qualifications, there is a massive opportunity to unbundle education for adult learners, allowing them to upskill efficiently without committing to multi-year degrees.
- **Indigenous Knowledge & Cultural Competency**: New Zealand has a unique opportunity to lead globally in indigenous micro-credentials. The framework explicitly recognizes Mātauranga Māori, and highly successful micro-credentials in Te Reo Māori, Tikanga Māori, and Te Tiriti o Waitangi are already in high demand across the workforce.

Annex B.16 - Tunisia

Tunisia has strong technical signals but weaker recognition architecture. The blockchain-based Unified Arab System for Diploma Authenticity Verification provides a trust layer, while the Virtual University of Tunis and ATFP lead modular and distance provision with more than 500 interactive modules. The absence of a common administrative definition, a standard credit conversion and explicit CNQ treatment limits portability and employer trust; public-private collaboration remains uneven.

44/100	Policy	Ecosystem	Infrastructure	Usage
WARMING	10/25	12/25	12/20	10/30

Diagnostic snapshot

Country **Tunisia**

Temperature Score **44/100 (Warming ●)**

Key Highlights

- **Strategy/Policy**: Tunisia officially adopted the blockchain-based Unified Arab System for Diploma Authenticity Verification in 2025, providing a technical trust-layer for digital credentials.
- **Ecosystem adoption**: The Virtual University of Tunis (UVT) and the Tunisian Agency for Vocational Training (ATFP) act as the primary vanguards for the adoption of modular content and microcredentials.
- **Barrier**: The "recognition gap" persists due to the lack of a universally accepted definition within the administration and the absence of a standardized credit conversion (such as ECTS equivalents) for short-cycle training.

Snapshot

- **Issuing institutions**: Dozens (including the Virtual University of Tunis, ATFP, and various VET operators).
- **Platforms active**: UVT distance learning platforms, Unified Arab System for Diploma Authenticity Verification, ANETI Tkawen.
- **Annual credentials**: Data not explicitly quantified nationally, but the UVT infrastructure alone offers over 500 interactive tutored modules for certification.

Dimension Scores

1. POLICY & RECOGNITION (10/25)

- **National definition**: No. A major challenge remains the lack of a common, universally accepted definition of microcredentials within the Tunisian administration.
- **Legal/regulatory framework**: 1/3. General frameworks such as Law No. 2008-19 and Decree No. 2013-47 govern higher education and VET, and there are Terms and Conditions for distance learning, but specific microcredential regulations are lacking. The 2025 Labor Code reform aims to encourage co-creation of micro-learning programs.
- **Integration into NQF**: Partial. The National Classification of Qualifications (CNQ) has 7 levels, but it does not explicitly define the workload (e.g., ECTS equivalent) for a microcredential, though the recognition of microcredentials is anchored in its modernization.
- **Public funding schemes**: Yes. The National Employment Fund finances short-term training courses to develop specific skills for job seekers via programs like the KARAMA contract and the Contract for Initiation into Professional Life.
- **National strategy / roadmap**: Yes. The Education Sector Strategic Plan 2025–2035 sets long-term priorities on quality, digitalization, and governance across the education sectors.

2. ECOSYSTEM & ADOPTION (12/25)

- **Number of issuing institutions**: Developing. The Virtual University of Tunis (UVT) leads higher education efforts, while the ATFP manages certifications across various VET operators.
- **Major national initiatives**: State-sponsored active labor market policies via ANETI (such as ANETI Tkawen for ICT and soft skills), and UVT's distance learning integration.
- **Industry involvement**: 1/3. Collaboration is relatively weak. The education system often does not align with company needs, prompting many structured companies to rely on internal training rather than collaborating with formal providers.
- **Platform presence**: Growing. The UVT infrastructure and the new Unified Arab System are the primary platforms.
- **Public-private partnerships**: Developing, aided by international donors (like the EU and World Bank) and private initiatives such as Orange's digital schools.

3. **INFRASTRUCTURE & STANDARDS (12/20)**

- **Use of digital credential standards**: Emerging. A landmark development is the 2025 adoption of the blockchain-powered Unified Arab System for Diploma Authenticity Verification.
- **National credential infrastructure**: The Unified Arab System allows recruiters to verify diplomas on-chain. However, the development of a comprehensive CNQ online register has historically faced implementation delays.
- **Alignment with EU frameworks**: Partial. Tunisia utilizes the ETF "Guide to Design, Issue and Recognise Micro-Credentials" and is a key partner in the African Continental Qualifications Framework (ACQF) to facilitate eventual EHEA portability.
- **Verification systems & Data portability**: Maturing. The blockchain system guarantees security and allows for instant QR-code verification, protecting against forgery and enabling portability.

4. **USAGE & MARKET PENETRATION (10/30)**

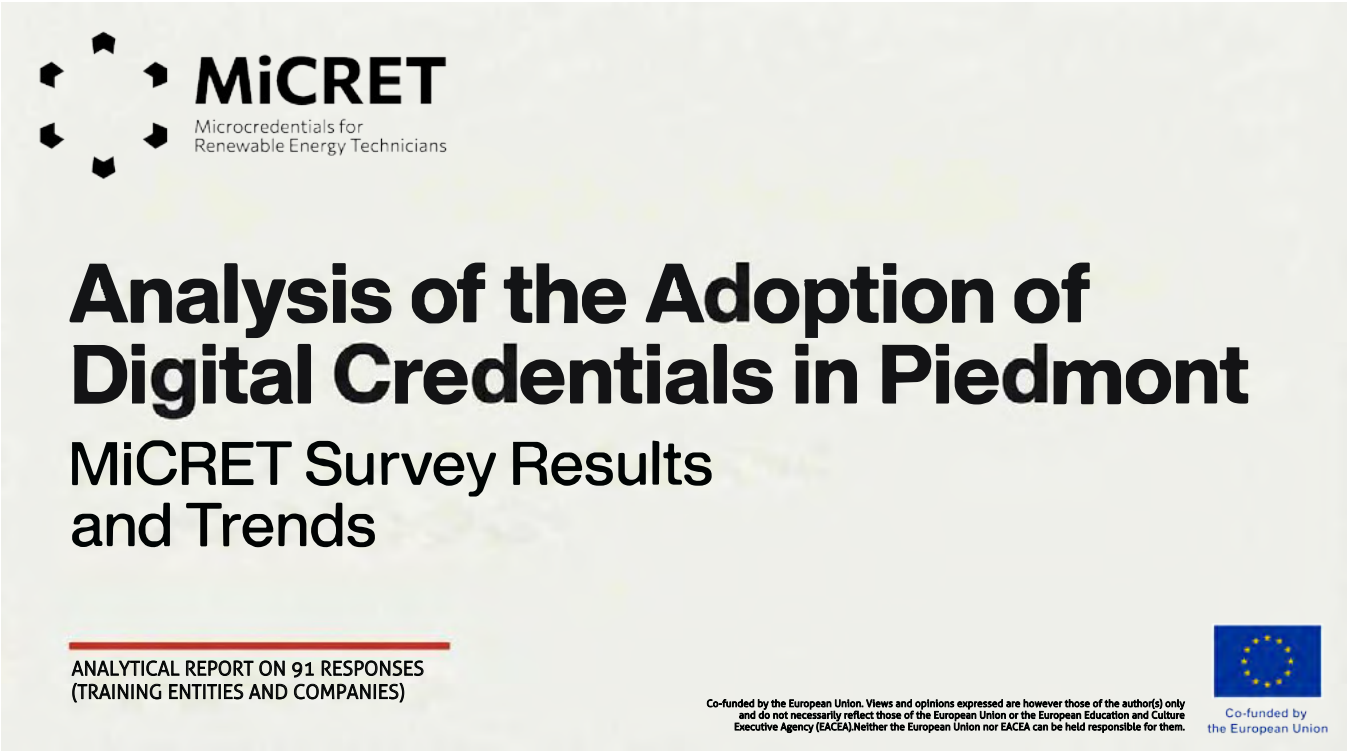
- **Number of digital credentials issued annually**: Not specifically quantified nationally, but heavily tied to the UVT's 500+ modules and targeted ALMP programs.
- **Learner participation rates**: General participation in lifelong learning is low (ranging from 1.8% to 2.2% historically), but targeted state-sponsored youth training pathways exist.
- **Employer recognition**: Fragmented. Employers rely heavily on their own internal training because they perceive graduates as lacking practical skills. The absence of standardized credit conversions makes stackability and readability difficult for the labor market.
- **Sector penetration**: High priority areas include the Energy sector (specifically renewable transitions like solar) and ICT/Digital skills.
- **Growth trend (3–5 years)**: Expected to accelerate. Flat GDP growth, high inflation, and youth unemployment exceeding 40% are creating a critical necessity for agile, skills-based recognition and rapid reskilling.

Opportunities

- **Leverage Blockchain for Trust**: The adoption of the Unified Arab System for Diploma Authenticity Verification provides the technical trust-layer needed. Expanding this infrastructure can ensure microcredentials are secure, verifiable, and accepted by multiple employers and institutions globally.
- **Standardize Definitions and Credit Systems**: Addressing the "recognition gap" by officially defining microcredentials and linking them to a standardized credit conversion (e.g., ECTS) within the CNQ will allow credentials to stack seamlessly. This would also facilitate much-needed pathways for the Validation of Non-Formal and Informal Learning (VNFIL).

Annex C: Piedmont Region Survey

Download the full report here.



09.

References

9. References

Council of the European Union. (2022). Council Recommendation of 16 June 2022 on a European approach to micro-credentials for lifelong learning and employability (2022/C 243/02). Official Journal of the European Union.

Cedefop. (2024). Microcredentials for labour market education and training: The added value for end users. Cedefop working paper series.

European Commission. (n.d.). European Digital Credentials for Learning. Europass.

European Commission. (n.d.). European Learning Model: Semantic standard for learning and employment data.

MiCRET. (2024). Technical description: Microcredentials for Renewable Energy Technicians (Project 101195980). Erasmus+ grant application.

MiCRET. (2026). Skills Needs Analysis Report for the Renewable Energy Sector (D2.1).

MiCRET. (2026). Digital and Green Skills Training Offerings Improvement Plan.

MiCRET. (2026). Catalogue of Recommended, Inspiring Microcredential Schemes (D3.2).

MiCRET. (2026). WP3.3 Guidelines for Consultations - Microcredentials Thermometer.

MiCRET. (2026). WP3.3 Structured Feedback from National Stakeholders.

MiCRET. (2026). Analysis of the Adoption of Digital Credentials in Piedmont: MiCRET Survey Results and Trends.

MiCRET. (2026, June 19). MiCRET Microcredentials Thermometer - June [Webinar, video recording and transcript]. https://micret.eu/events/micret-microcredentials-thermometer-june/

MiCRET. (2026, July 10). MiCRET Microcredentials Thermometer - July [Webinar, video recording and transcript]. https://micret.eu/events/micret-microcredentials-thermometer-july/

MiCRET. (2026, August 28). Microcredentials Thermometer - August [Planned webinar]. https://micret.eu/events/microcredentials-thermometer-august/

MiCRET. (2026). Microcredentials Thermometer: Methodology and country dashboards. https://micret.eu/microcredentials-thermometer/

Quality and Qualifications Ireland. (n.d.). Irish Register of Qualifications and microcredential guidance.

New Zealand Qualifications Authority. (n.d.). Micro-credentials: Approval, listing and quality assurance.

Npuls. (n.d.). National pilot microcredentials and shared quality framework, The Netherlands.

1EdTech Consortium. (n.d.). Open Badges specification.

World Alliance for Microcredentials. (n.d.). Integrated Quality Framework for microcredentials.

Primary web links

MiCRET Microcredentials Thermometer
https://micret.eu/microcredentials-thermometer/

MiCRET project events
https://micret.eu/project-events/

June webinar
https://micret.eu/events/micret-microcredentials-thermometer-june/

July webinar
https://micret.eu/events/micret-microcredentials-thermometer-july/

August webinar
https://micret.eu/events/microcredentials-thermometer-august/

European Digital Credentials for Learning
https://europass.europa.eu/en/european-digital-credentials-learning

Council Recommendation on microcredentials
https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32022H0627(02)

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