



MICROCREDENTIALS

STRIVING TO COMBINE CREDIBILITY AND AGILITY

Sweeping changes in economies and jobs require education and training to offer **more flexible learning pathways and valid credentials**



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Microcredentials hold promise for connecting people's skillsets with labour market demand in a rapidly changing world of work. They have proliferated in recent years across economic sectors and education levels, reinforcing European and national efforts to understand and develop them better ⁽¹⁾. They can increase the provision of labour-market-relevant vocational education and training (VET), supporting national, regional and sectoral upskilling and reskilling strategies, offering learners targeted training for better employment prospects, and helping employers

improve employee retention and productivity. They support the modularisation of qualifications and the validation of prior learning, enabling the inclusion of the most vulnerable and lifelong learning at all levels.

However, significant policy progress and research is needed to ensure that microcredentials offer end-users real value. Cedefop has investigated the evolving purposes, roles and effects of microcredentials in relation to European qualifications systems, the preconditions for users to have trust in them, and the support users need to engage with and benefit from them ⁽²⁾.

⁽¹⁾ Cedefop research on microcredentials. See also Cedefop's 2022 briefing note [Are microcredentials becoming a big deal?](#)

⁽²⁾ See Cedefop's [first](#), [second](#) and [third](#) report on this most recent strand of work.

Omnipresent yet ill-defined

Thanks to their focus on labour market training and their flexibility in responding quickly to emerging skill needs, microcredentials are becoming ever more popular, especially in continuing vocational education and training (CVET). They offer learners opportunities to complement their initial qualifications in a targeted way and help them signal their skills, for example to potential employers.

Cedefop has recently observed growing interest among stakeholders in another aspect of microcredentials: their potential to aid the inclusion of vulnerable learners: migrants, early leavers from education and training, persons with disabilities or other disadvantaged persons.

The increasing and diversifying uses of microcredentials raise the question of how they relate to and interact with existing qualifications. How should they be assessed, recognised or certified? Integrated in national qualification frameworks? Quality-assured? Treated as stackable building blocks of full, recognised credentials or qualifications? All these features are currently being debated across the EU as they determine the value learners and employers will ascribe to them.

Welcomed, with strings attached

EU countries have generally been trying to strike a balance between the challenges and opportunities of microcredentials and trying to define, standardise and regulate them to ensure their comparability and value for end-users. The [2022 Council Recommendation on a European approach to microcredentials for lifelong learning and employability](#) has been guiding this process.

Discussions across Europe are focusing on how to incorporate microcredentials in national qualifications systems and frameworks, and how to create the conditions for recognising them. However, approaches vary notably, with different national views on the description and assessment of qualifications, on the validation of prior learning, and on quality assurance of microcredentials.

All European countries are modularising their qualifications, most commonly in adult education, but also in higher education and VET. Also, most countries are working towards comprehensive national qualifications frameworks (NQFs) ⁽³⁾ which include all types and levels of qualifications. More than half have opened their frameworks to non-formal qualifications ⁽⁴⁾; others fear that an uncontrolled proliferation of microcredentials is likely to prompt a general shift

⁽³⁾ Based on the [European qualifications framework \(EQF\)](#).

⁽⁴⁾ 34 EU, EEA and Western Balkan countries, according to [Cedefop's European NQF inventory](#).

away from holistic (initial) education and training to short learning experiences offering reduced skillsets and potentially undermining traditional education and training systems.

Changing jobs, education and training

The twin transition ⁽⁵⁾ has been transforming jobs and whole sectors, upending labour market demand and creating skill shortages in many sectors. Today, 90% of jobs require digital skills, but only 54% of the population possess them. Europe must massively upskill and reskill its labour force to stand its ground in global competition.

National VET systems have adapted, promoting labour mobility and lifelong learning, and creating new formats of training provision and credentialing. More than half of EU Member States have started or are planning to incorporate microcredentials, including digital ones, in their NQFs to ascribe value to them and enable comparison.

Learners increasingly need shorter, more flexible re- or upskilling formats, which fit with their schedules, professional needs and work-life balance. While VET systems have been adapting to demand shifts, e.g. in terms of modularisation and inclusion of partial qualifications, microcredentials are often better at meeting immediate needs, like flexible, learner-centred pathways.

Microcredentials serve multiple purposes. These range from offering an entry point to the labour market, e.g. in food, care and cleaning services, to providing highly valued professional top-up solutions in advanced and IT-intensive manufacturing. They help shape industrial ecosystems such as innovation clusters, and play a role in business innovation and even in the economic restructuring of regions. They are geared to local needs and offered via global platforms. Some provide a quick and targeted response to specific skill gaps, while others are embedded in comprehensive skill strategies.

Box 1. Skills and training for the cleaning industry in the EU

According to a [study](#) of the [European Cleaning and Facility Services Industry](#) in 13 countries, industrial cleaning training is offered at different EQF levels. These cover short courses for (assistant) cleaners and window cleaners (levels 1 and 2), to further training, e.g. for high-pressure cleaners (level 3) which can be considered as a first step towards an occupational qualification, and comprehensive 2-year apprenticeships for

⁽⁵⁾ Digitalisation and greening of the economy.

highly specialised cleaners (level 4) also qualifying them for supervisory activities.

Box 2. Skills and training for the microelectronic industry in the EU

METIS4SKILLS is a Brussels-based VET provider which operates in the microelectronics sector across 13 countries (*). To tailor its training offer to new needs as they emerge, METIS4SKILLS has created a consortium comprising 20 partners, including companies in the microelectronics sector, education and training institutions and regulatory/ certification bodies. In cooperation with its partners, it has developed a sectoral skills strategy and helps define and refine occupational profiles based on the participating countries' qualifications frameworks.

METIS curricula and courses are jointly developed with industry and education and training actors. Currently, METIS is preparing a learning-outcomes-based training catalogue covering EQF levels 4 to 7. Its approach is integrated and modular: 'core units' (30 to 50 training hours) are designed as stand-alone modules which can be topped-up with 'satellite units' (10 to 15 training hours).

The core units can be delivered and certified as autonomous training blocks. They are designed to allow:

- workers in the microelectronics industry to acquire sets of specific skills and thus upgrade their profile;
- workers in other sectors to obtain additional skills in microelectronics and to widen their profile;
- labour market entrants to get training in the area offering the most promising occupation opportunities (manufacturing, chip and/or system design).

METIS4SKILLS is co-funded by the Erasmus+ programme.

(*) 11 EU countries, Norway, and Turkey.

Ensuring value for end-users

Microcredentials are expected to continue to play an increasing role, be it in workforce development, individual recruitment or as a bridge to further learning. This requires assurances for users. Learners, workers and jobseekers must have a guarantee that microcredentials can really further their learning and working careers; employers must be able to rely on them as a trustworthy reflection of job applicant skills and knowledge. Stakeholder expectations will focus on the labour market relevance and status of recognition of microcredentials, as well as the reputation of their issuers: this is a prerequisite for the different users to assess their value and place trust in them. What does that take?

Common descriptors

Information on microcredentials and their market value must be clearly signalled. This requires cross-country stakeholder agreement on standard elements describing them, such as identification of the learner and the issuing body, as well as the place and date of issue, the title, duration, EQF level, mode of delivery and type of assessment.

Agility

Users expect the content of microcredentials to respond to real, current skill demand: this is the number one reason why people take them up. Their design is a light task compared to that of a formal qualification, hence their flexibility and capacity to respond to emerging needs, but also their shorter shelf life. Employer involvement in their design can gear them better to labour market demand (Box 3).

Acknowledgment of provider and credential

The reputation of microcredential issuers is key. VET providers with an accreditation or certification enjoy a higher level of trust than those without. The same goes for microcredentials that are recognised as part of formal education and training and, as such, quality-assured.

Multinational providers of technology infrastructure and software services, especially in fields such as industry 4.0, e-commerce and cybersecurity, have played a growing role as respected training providers: many industry certifications supporting implementation, maintenance and use of ICT tools enjoy a high level of trust and esteem.

Assessment

Microcredentials are assessed in different ways. Those offered by traditional VET providers are usually awarded following assessment against defined learning outcomes, while industry certification assessment is designed to demonstrate compliance with performance standards. Recent assessment models include the use of portfolios allowing for stacking of microcredentials, and simulations, e.g. in industry 4.0.

Box 3. Cooperation on skills assessment and certification

Festo Didactic was established decades ago as a separate training unit of the German mother company **Festo**, a world leading supplier of automation technology. In Europe, Festo Didactic is positioned both in IVET and in professional training, thanks to its training applications

for advanced manufacturing and its learning laboratories. In Germany, it offers, in cooperation with the [Stuttgart Chamber of Commerce and Industry](#), certifications in automation based on part-time professional training in automation technology for skilled shop floor workers.

Quality assurance

The quality assurance of microcredentials by relevant authorities is another important trust factor. There are no fixed quality standards for microcredentials awarded outside formal education and training systems. Considering the plethora of microcredentials and user difficulty in assessing options, uncertainty about the quality of such credentials is a major factor of distrust. This is why quality assurance is central to discussions about a regulatory framework for microcredentials, aiming to increase their transparency and the level of trust in them. However, such considerations are counterbalanced by the very purposes microcredentials are supposed to serve: being agile, responsive to labour market needs and complementary to full qualifications.

Stackability

Adding up several microcredentials (or modules) to full qualifications is already common practice in some EU Member States, offering learners an incentive to strengthen and to document their skills. However, Cedefop research has shown that such an accumulation often does not work for microcredentials outside formal systems, as they are underpinned by different assessment, recognition and quality assurance practices. Exceptions exist, such as microcredentials in IT or manufacturing; some of these are based on industry standards combined with professional advancement frameworks and enjoy a high level of trust.

Building trust

Trust must be the basis of any further development of microcredentials. Both learners and their employers need assurance that the promised learning outcomes will be achieved; the outcomes of the learning experience must be worth the investment made by the learner or his/her employer.

- Broad stakeholder cooperation bringing together public services, training providers, employers, and learners ensures that the value of microcredentials is equally understood and recognised both in the labour market and the education system.
- Linking the learning outcomes addressed by a microcredential to those described in a given occupational profile can strengthen their validity and users' trust in them. In this context, the involve-

ment of employers in their design is key.

- A strong tool for ascribing value to and building trust in microcredentials is to reference them to national qualifications frameworks (NQF). While some are included in NQFs, the referencing process is costly and time-consuming.
- Building trust in digital microcredentials including open badges, requires metadata with sufficient evidence of the skills obtained by the owner, as well as secure technology. Some countries are creating platforms for the issuing, storing and sharing of digital microcredentials. At European level, the [Europass Digital Credentials Infrastructure \(EDCI\)](#) is under construction and will soon be available.

Serving inclusion

The low-qualified participate less in training than their better-qualified peers. The reasons for this paradox have been analysed and are not only financial. Besides the lack of time, money and access to learning infrastructure (e.g. internet), the most crucial barrier preventing low-skilled people from participating in training is that, in many cases, they do not see a need for it. To overcome this persistent barrier, individuals must be made aware of the up- and reskilling opportunities they are entitled to and receive guidance before, during and after the identified training, ideally until they find a job. Such comprehensive support can keep them engaged and helps ensure that they use and benefit from the skills acquired. These measures must be user-centred and, when needed, include assistance with applications, practical issues and potential personal and health issues; they must also include funding.

Box 4. A Danish employer organisation involved in worker training

[TEKNIQ Arbejdsgiverne](#) is an employer organisation in the electricity, plumbing and metal sector. The fast pace of the digitalisation and greening of the Danish economy is forcing employers not only to up- and reskill their workers, but to look beyond them for skilled labour. To this end, TEKNIQ, in cooperation with the unions, has designed short programmes to train unemployed and/or low-qualified workers to become cable technicians, pipe fitters or heating welders. These microcredentials are designed as labour market training ([Arbejdsmarkedsuddannelser, AMU](#)), which is recognised by the authorities, offers learners specific job skills and is highly trusted. Beyond the training design, the social partner cooperation also covers arrangements for job placements and salaries, mitigating not only companies' skill shortages, but also helping people who are generally difficult to reach.

Framing good use of microcredentials

Non-financial support

Comprehensive guidance is increasingly important for all users to find their way through the training options available to them as top-up or entry solutions, and to take informed decisions for building meaningful training and working careers.

Real-time labour market data and artificial intelligence (AI) are novel tools complementing guidance staff expertise in labour market developments. A task- and skill-based analysis of jobs on offer highlights the links between people's skill profiles and new job opportunities within their reach by spelling out which additional skills they need to seize these opportunities.

Box 5. Bringing people, training and jobs together

Launched in 2020, [Jobflix France](#) is a digital platform offering an innovative and scalable digital approach to lifelong learning in pursuit of good work. It helps users explore various learning and career options based on their skills and interests, as well as personalised career guidance services using labour market data. The aim is to support users shifting to a long-term career development mindset and to create pathways towards employment opportunities.

Jobflix France has developed an [app](#) which allows people to explore learning and working opportunities in their region.

Information tools such as microcredential registers can support learners' acceptance of microcredentials and help them, along with guidance staff supporting them, compare accredited microcredentials to find trustworthy providers. While such registers exist in some third countries ([for example in New Zealand](#)), they are still in their infancy in the EU.

The **validation of prior learning**, embedded in all-inclusive guidance provision and complemented by relevant training proposals, makes microcredentials accessible for all. It can help low-skilled workers or the unemployed (re-)enter the labour market.

Financial support

Financial support measures play an important role in promoting a well-informed and socially fair use of microcredentials. Their costs vary considerably and high expenses can deter both individuals and small companies from investing in them.

Company funding is the norm for most CVET in Europe, yet the nature of their investments varies greatly. Some firms limit the training of their employees to the use and maintenance of machines or com-

pliance with regulatory requirements, while others see investment in their workforce as a way to increase employee wellbeing (which translates in many cases in company productivity). In the current context of increasing workplace automation and digitalisation, the extent to which companies prioritise training for different groups of employees impacts individual mobility and job opportunities ⁽⁶⁾.

Public funding within Member States and at EU level, e.g. through the European Social Fund, plays a key role in covering part of the costs of company-led training.

Training vouchers are the most common means supporting adult education and training across Europe. As they are often jointly financed by learners, those most in need are the first ones to encounter obstacles.

Individual learning accounts allow their owners to accumulate training rights over time, thus promoting lifelong learning including the uptake of microcredentials.

ESF+ offers programmes for funding VET providers. They can use them to develop and offer microcredentials.

Looking ahead

Microcredentials are here to stay but their future is open. While their potential to meet European citizens', companies' and countries' diverse education and labour market needs is undeniable, further comprehensive and context-sensitive research is needed to clarify their status in relation to existing qualifications. In parallel, the development of learner-centred support policies, including guidance, is essential if more individuals and companies are to engage in and benefit from microcredentials.

Further experimentation with practical initiatives, as well as knowledge sharing between them, are needed to support countries in their efforts to develop and mainstream microcredentials and to define their role in national skills formation systems.

⁽⁶⁾ Cedefop research has shown that some companies tend to shift the responsibility for training to their employees.



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