

# Case study Poland

## Microcredentials for labour market education and training

First look at mapping microcredentials in European labour-market-related education, training and learning: take-up, characteristics and functions

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## CHAPTER 1. Introduction

The following report summarises research conducted in Poland on behalf of The European Centre for the Development of Vocational Training (Cedefop) which commissioned PPMI (consortium leader) to undertake a study on microcredentials for the labour market education and training:

- (a) the scope of the case study and its objectives;
- (b) overview of data collection methods and sources of information used to develop the case study;
- (c) difficulties encountered while preparing the report (e.g., difficulties related to arrangement of interviews, cultural difficulties, topics that could not have been addressed);
- (d) structure of the report.

### 1.1. Executive summary

- (a) Microcredentials are still perceived as a relatively new phenomenon in Poland. However, among other new forms of alternative credentials, open badges, digital badges, professional certificates, microcredentials are gaining importance in the national context as an effective professional development tool and essential element of life-long learning. The term 'microcredentials' (translated into Polish as 'mikro-poświadczenia') is better known in higher education, where it is associated with massive online courses provided by Anglo-Saxon universities.
- (b) Microcredentials usually share the following characteristics: 1. low number of required learning hours; 2. weak ties to formal education; 3. covering sets of specific learning outcomes, which are a subject to some form of validation; 4. less strict quality assurance standards, 5. issued in digital or analogue form, but usually contain at least information about a title of a microcredential; holder name; name of the awarding body; date of issuing and the scope of acquired knowledge or skills 6. often might be combined and accumulated with other microcredentials.
- (c) Scientific and policy discussions about microcredentials are conducted mainly in a few academic and research centres, while policy discussions and initiatives regarding microcredentials are mainly the responsibility of the Department of Innovation and Development in the Ministry of Education and Science.

- (d) The Integrated Skills Strategy 2030 (ISS 2030), the key national document in lifelong learning policies, provides a friendly ground for the development of microcredentials. The strategy promotes the integration of formal, non-formal and informal learning and encourages developing and promoting validation and certification, including digitisation of staged accumulation and recognition of achievements.
- (e) Key initiatives related to the microcredentials in Poland are: 1. The Badge + project – implemented within the framework of Integrated Qualification System by Educational Research Institute, with the aim of building IT infrastructure which will support the process of creating and using digital badges; 2. ENHANCE Alliance - ERASMUS + project aiming at building joint educational offer based on microcredentials; 3. 'SPINAKER' program - started in 2020 by the Agency for Academic Exchange (NAWA), supporting the development of the didactic offer of Polish universities with short online courses for foreign students.
- (f) Microcredentials are quite commonly used in the labour market related education. According to Statistics Poland (GUS), around 45% of the total number of enterprises providing some forms of continuous vocational training for their employees – this share grew with the size class of enterprises. The training and educational services sector in Poland is well developed.
- (g) Potential users of microcredentials are easiest to find among participants of adult education and training. Study of Human Capital (BKL 2019) shows that among 25-64 years old Poles, almost 27% participated in formal or non-formal education in the last four weeks.
- (h) The main actors providing learning activities leading to microcredentials might be classified into four main categories: 1. international MOOC platforms (with the most popular Khan Academy and Coursera); 2. national universities and MOOC platforms rooted in the Polish higher education sector (ex. Open University of the University of Warsaw, NAVOICA platform); 3. VET schools and other educational institutions (continuing education centres and vocational training centres); 4. private training and education service providers.
- (i) The need to use microcredentials is visible in occupations where continuous professional development is particularly required. The latter need arises from various factors: rapidly advancing technological changes, the growth of scientific/professional knowledge or frequent changes of law order. The motivations of users to collect microcredentials are often related to the need to document individual professional development, especially if it accompanies an attempt of change of the career path.

- (j) Microcredentials are popular in sectors specializing in the development of IT technologies (software development, computer systems administration and IT management, cloud solutions) or heavily dependent on IT technologies (data science and research, digital marketing, finance).
- (k) The ICT sector is extremely diverse in terms of the specifics of its sub-sectors and related professional roles, but this is an area where the use of microcredentials is developing extremely dynamically. Manufacturers or providers of new ICT solutions usually provide educational services related to their products. They also often provide certification in the field of sold technologies. Currently, good examples of such technologies are cloud solutions (Amazon AWS, Azure Microsoft or Google Cloud certification) or solutions used in DevOps (development and operations, such as Docker, Kubernetes, etc.).
- (l) The great popularity of microcredentials in the education sector, especially school-based education, is largely due to the way the system of professional promotion of Polish teachers is organised. Educational services leading to microcredentials in the school-based education sector are usually organised by teacher training institutions, school textbook publishers and providers of IT solutions for schools (electronic journals and IT systems supporting school management). The use of microcredentials in the higher-education sector is less formalised than in the case of school-based education.
- (m) The Polish Integrated Qualification System (IQS) provides friendly institutional environment for microcredentials. However, high quality assurance standards set within the system and effortfulness of the process of adding a market qualification to the IQS pose significant barriers for many microcredentials. On the other hand, microcredentials might bring the added value for IQS – serving as the system vestibule, they might help with spreading the idea of IQS and adding new qualifications to the system.
- (n) The Polish Integrated Qualification System covers full qualifications awarded in the formal education upon completion of specific stages of education and several types of partial qualifications, which might be awarded by different types of institutions, organisations, and associations. One of the essential types of partial qualifications are the non-statutory (market) qualifications - a considerable share of them, especially those requiring less than 200 hours of study work, might be classified as microcredentials or alternative credentials.
- (o) There are many microcredentials that are too small or cannot be included in IQS due to formal or operational reasons. The project Badge+ (described in previous chapter) aims to create an open register for such microcredentials and it might be seen as an attempt to fill the gap in IQS.

- (p) Microcredentials delivered by higher education institutions might be linked to European Credit Transfer System. The MICROBOL project investigates whether and how the existing Bologna tools can be used or need to be adapted to be applicable to microcredentials. Project focuses on examining the adequacy of ECTS for microcredentials.
- (q) The Act of 22 December 2015 introducing the Polish Integrated Qualification System (IQS) allows "gradual accumulation and recognition of achievements" - existing provisions open vast possibilities of accumulating and combining microcredentials with other qualifications.
- (r) The development of microcredentials results from the need to move to a learning paradigm that will better meet the needs of learners who must meet the challenges of rapid growth of the scientific knowledge and constant technological change. Microcredentials might be seen as a useful, auxiliary tool increasing the flexibility and adaptivity of educational systems.
- (s) One of the central issues of the debate on microcredentials is their credibility and quality. The main factors limiting the level of trust in microcredentials include: doubts about the quality of some microcredentials, no agreed standards for quality assurance of microcredentials, uncertainty as to whether certain microcredentials will be recognised by national authorities, employers or education and training providers.
- (t) Trust in microcredentials is most often based on the reputation of a certifying institution. In contrast, IQS has a strong emphasis on quality standards and validation procedures built into the system itself. Nevertheless, the quality assurance mechanisms for microcredentials should be based on self-regulation: the most trustworthy, high-quality microcredentials will prove their credibility on the market.



## 1.2. Scope of the case study and structure of the report

The scope of the case study was defined by the PPMI core management team, which prepared detailed methodological guidelines. The Polish case study aims to understand better the role of microcredentials within the national educational system and on the Polish labour market.

Microcredentials, among other new forms of alternative credentials, are gaining importance in Poland as an effective professional development tool and essential element of life-long learning. The report aims to provide a better understanding of the role played by microcredentials in Poland.

### **Chapter 2:**

- (a) discusses the extent to which microcredentials are known among different groups of stakeholders and used in Poland;
- (b) presents existing definitions of microcredentials and identify their main characteristics;
- (c) summarises ongoing policy discussions, public debates and initiatives regarding microcredentials;
- (d) shows the types, scale of use and functions of microcredentials in the context of labour market-related education, training and learning;
- (e) maps the leading providers of learning activities leading to microcredentials;
- (f) identifies main types of microcredentials users and sectors/occupations where microcredentials are the most prevalent, relevant and important.

### **Chapter 3:**

- (a) analyses the relationship between microcredentials and Polish qualification system;
- (b) shows how the microcredentials are linked to credit systems present in Poland.

### **Chapter 4:**

- (a) analyses how the microcredentials in Poland respond to the needs of their users;
- (b) presents main benefits of the use of microcredentials for the main groups of their users;
- (c) analyses the conditions shaping trust or distrust in microcredentials among different groups of stakeholders.

### 1.3. Data collection methods and sources of information

The methodology of the Polish case study was developed according to the guidelines provided by the PPMI core management team. The mixed-method approach, combining qualitative and quantitative research methods, was adopted to collect and analyse data supporting the Polish case study. The following methods were used to collect necessary data and information:

- (a) desk research and analysis of existing statistics covering existing strategic and national documents regarding Polish qualification system, educational and labour market policies, existing research and academic literature regarding alternative credentials in Poland;
- (b) 5 in-depth individual interviews (Table 3);
- (c) 4 CAWI surveys conducted by the PPMI among Polish stakeholders (Table 2):
  - (i) national authorities;
  - (ii) vocational and training providers;
  - (iii) employer organisations;
  - (iv) employee organisations.

The conducted on-line surveys, due to the insufficient number of collected responses (Table 1), do not allow for a quantitative analysis of the data. Any attempts to draw conclusions based on such residual data would be burdened with too much error. Therefore, the collected responses were analysed qualitatively and used to supplement the research material from desk research and qualitative interviews.

**Table 1. Survey research - the number of responses among Polish stakeholders**

<b>Survey</b>	<b>Number of completed responses</b>
National authorities	0
Vocational and training providers	1
Employer organisations	1
Employee organisations	4

**Table 2. Qualitative profiles of surveys' participants**

<b>VET Providers</b>	<b>Employer Organisations</b>	<b>Employee Organisations</b>
Single private for-profit organisation based in Poland, issuing microcredentials in the ICT field. Provides learning activities at EQF three to eight levels available for learners worldwide. Offers different types of specified small or alternative credentials: professional certificates (e.g., CertiProf); vendor-specific certificates (e.g., Cisco) and vendor-neutral certificates (e.g., CompTIA).	Single employers' association representing manufacturing sector. Organisation does not offer any of the listed small or alternative credentials.	Three members of trade unions, one member of trade union confederation – all based in Poland. Organisations representing education (three responses), Agriculture, forestry, and fishing (one response), Public administration and defence; compulsory social security (one response) and all sectors (one response).

**Table 3. Qualitative research - interviews conducted among Polish stakeholders**

<b>IDI</b>	<b>Date</b>	<b>Interviewee profile</b>
IDI1	19-05-2021	Expert in the field of higher education and the Polish Integrated Qualifications System
IDI2	21-05-2021	Expert in the field of microcredentials, digital badges, open badges etc.
IDI3	19-10-2021	Certified teacher (primary school)
IDI4	20-10-2021	Academic teacher and researcher
IDI5	20-10-2021	IT expert and manager (private company)

#### 1.4. Difficulties encountered while preparing report

The conducted surveys are characterised by a very low response rate. In the case of the national authorities' survey, not a single questionnaire was collected. In the case of the vocational and training providers' category, only one answer was obtained, similarly in the case of employer organisations' category. Among the respondents from the employee organisations' category, only four responses were collected. Little interest in the conducted surveys is most likely because microcredentials remain a relatively new and little-known phenomenon.

## CHAPTER 2. Analysis of the take up, characteristics and functions of microcredentials

The following chapter presents findings regarding:

- (a) the level of familiarity with a term of microcredentials among different groups of stakeholders (2.1);
- (b) existing definitions of microcredentials (2.2);
- (c) on-going policy discussions on microcredentials in Poland (2.3);
- (d) supply and demand for microcredentials in Poland (2.4-2.6);
- (e) primary types, characteristics and functions of microcredentials in Poland (2.7);
- (f) identification of the main sectors of the Polish labour market where microcredentials play an important role (2.8).

### 2.1. Chapter summary

- (a) Microcredentials, due to the variety of their forms and the lack of commonly shared definitions, are still perceived as a relatively new phenomenon in Poland. The term 'microcredentials' has been already translated into Polish ('mikro-poświadczenia'), but it is rarely used. However, terms like microcredentials, alternative credentials, open badges, digital badges, are gaining importance in the national context as an effective professional development tool and essential element of life-long learning. Microcredentials are better known in higher education, where they are associated with MOCC, while the term 'digital badges' is more often used in the private sector.
- (b) Microcredentials usually share the following characteristics: 1. relatively low number of required learning hours; 2. weak ties to formal education; 3. covering sets of specific learning outcomes, which are a subject to some form of validation; 4. lower levels of quality assurance standards, 5. issued in digital or analogue form, but usually contain at least information about a title of a microcredential; holder name; name of the awarding body; date of issuing and the scope of acquired knowledge or skills 6. often might be combined and accumulated with other microcredentials.
- (c) Scientific and policy discussions about microcredentials are conducted mainly in a few academic and research centres, while policy discussions and initiatives regarding microcredentials are mainly the responsibility of the

Department of Innovation and Development in the Ministry of Education and Science.

- (d) The Integrated Skills Strategy 2030 (ISS 2030), which is the key national document in lifelong learning policies, provides a friendly ground for the development of microcredentials. The strategy promotes the integration of formal, non-formal and informal learning and encourages developing and promoting validation and certification, including digitisation of staged accumulation and recognition of achievements.
- (e) A good example of an attempt to put these ideas into practice is the project The Badge +, which is implemented within the framework of Integrated Qualification System project at the Educational Research Institute. The project assumes building the IT infrastructure which will support the process of creating and using digital badges.
- (f) Important initiatives related to microcredentials in the higher education sector include: the ENHANCE Alliance, which is the ERASMUS + project aiming at building joint educational offer based on microcredentials and the 'SPINAKER' program, which was started in 2020 by the Agency for Academic Exchange (NAWA) and supports the development of the didactic offer of Polish universities with short online courses for foreign students.
- (g) Microcredentials are quite commonly used in the labour market related education. According to Statistics Poland (GUS), around 45% of the total number of enterprises providing some forms of continuous vocational training for their employees – this share grew with the size class of enterprises. The market of training and educational services in Poland is well developed and at the same time supported by various public policies. An example of such activities is the Database of Development Services (BUR), run by the Polish Agency for Enterprise Development (PARP), which is the public register of training and consulting services for companies and individuals subsidised from the EU funds.
- (h) Potential users of microcredentials are probably easiest to find among participants of adult education and training. According to the EUROSTAT, the adult education and training participation rate in Poland in 2020 was 3.7%, but other studies provide more optimistic data. National 2019 Study of Human Capital (BKL), which used a different methodology than that of Eurostat, show that among 25-64 years old Poles, almost 27% participated in formal or non-formal education in the last four weeks.
- (i) The main actors providing learning activities leading to microcredentials might be classified into four main categories: 1. international MOOC platforms (with the most popular Khan Academy and Coursera); 2. national universities and

MOOC platforms rooted in the Polish higher education sector (ex. Open University of the University of Warsaw, NAVOICA platform); 3. VET schools and other educational institutions (continuing education centres and vocational training centres) providing Additional Professional Skills (DUZ) courses covering small sets of skills and knowledge which are not included in the core curricula but might be helpful in a given profession; 4. private training and education service providers.

- (j) The need to use microcredentials, and the highest participation in non-formal education, is visible in occupations where continuous professional development is particularly required. The latter need arises from various factors: rapidly advancing technological changes, the growth of scientific/professional knowledge or frequent changes of law order. The motivations of users to collect microcredentials are often related to the need to document individual professional development, especially if it accompanies an attempt to change of the career path.
- (k) Microcredentials are popular in sectors specializing in the development of IT technologies (software development, computer systems administration and IT management, cloud solutions) or heavily dependent on IT technologies (data science and research, digital marketing).
- (l) The available data shows the popularity of microcredentials in the education sector, especially school-based education. It is related to the formal system of professional promotion of Polish teachers. Educational law encourages teachers to participate in courses and trainings on the path of their professional advancement.
- (m) Educational services leading to microcredentials in the school-based education sector are usually organised by teacher training institutions, school textbook publishers and providers of IT solutions for schools (electronic journals and IT systems supporting school management). The use of microcredentials in the higher-education sector is less formalised than in the case of school-based education.
- (n) The ICT sector is extremely diverse in terms of the specifics of its sub-sectors and related professional roles, but this is an area where the use of microcredentials is developing extremely dynamically. Microcredentials often appear around the latest technologies and products in the ICT industry to guarantee the necessary level of knowledge and competence in their use. Currently, good examples of such technologies are cloud solutions (Amazon AWS, Azure Microsoft or Google Cloud certification) or solutions used in DevOps (development and operations, such as Docker, Kubernetes, etc.). Manufacturers or providers of new ICT solutions usually provide educational

services related to their products. They also often provide certification in the field of sold technologies.

- (o) Microcredentials confirming knowledge of specific ICT technologies turn out to be particularly important in the case of IT services provided for the public sector, where formal qualifications and certification of IT experts are often expected. In the private sector, the pressure on certification is lower - larger employers usually verify the actual skills of the job candidates as part of a carefully planned recruitment process. However, microcredentials proving knowledge of a specific technology or software language is important for people starting work in IT who have not yet had the opportunity to gain work experience.

## 2.2. How familiar are the stakeholders with the term of microcredentials?

Over the last 10 years, various new credentials have gained importance in the education, training, and learning related to the Polish labour market. However, the variety of their forms and the lack of commonly shared definitions might be the reasons why microcredentials are still perceived as a relatively new phenomenon in Poland. The term 'microcredentials' is new, and although it has been translated into Polish '*mikro-poświadczenia*', it is rarely used (IDI1, IDI2). The novelty of the term microcredentials is also indicated by both the low response rate in the conducted surveys and their results (Table 2).

The earliest Polish academic publication referring to the term microcredentials discussed the possibilities of using open badges by technical universities (Woźniak and Nowakowski, 2016).

However, the first comprehensive attempt to analyse the phenomenon of microcredentials and place it in the Polish institutional and socioeconomic context comes from this year. The authors of this publication describe several new types of credentials, such as open badges, digital badges, and alternative credentials. They also note the popularity of MOOCs (Massive Open Online Courses) offered by Polish and foreign universities. Such courses often end with checking the acquired knowledge and skills. Their participants receive, usually digital, diplomas or badges. They also emphasise the role of market qualifications <sup>(1)</sup> included in

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<sup>(1)</sup> Market qualifications are one of the three types of qualifications included in the Integrated Qualifications System (IQS). They are developed and awarded by various social organisations, associations, professional groups or companies, but in order to

the Polish Integrated Qualifications System. Some of them are small enough to be considered microcredentials (Stęchły and Nowakowski, 2021).

Scientific and policy discussions about microcredentials are conducted mainly in a few academic and research centres: Warsaw School of Economics (SGH), Educational Research Institute (IBE), The Institute for Sustainable Technologies based in Radom and Foundation for the Development of the Education System (FRSE). Policy discussions and initiatives regarding microcredentials are mainly the responsibility of the Department of Innovation and Development in the Ministry of Education and Science. However, one of the interviewees mentioned that microcredentials and badges were of interest to a narrow group of experts long before it became a 'buzz' word in the EU:

'I have the impression that EU Commission and Cedefop are already a bit late in their initiative (...) The first project in this area, Open Badge Network, started in 2014. The standard itself was created in 2013, and in 2014, there was already a project. This is the beginning of the development and promotion of the open badges' standard in Europe. It is 2021 - a good few years after it started' IDI2.

**Table 3. How familiar are the stakeholders with the term 'microcredentials'?**

Question	National authorities	VET providers	Employer organisations	Employee organisations
Are you familiar with the term 'microcredential'?	No answers provided	Single private for-profit organisation familiar with microcredentials as it offers all types of specified small or alternative credentials.	The respondent was not familiar with microcredentials, and therefore did not provide answers to the remaining questions in the survey.	Two out of four respondents were familiar with the term 'microcredentials'.

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be included in the IQS Register, they should meet the formal requirements described in the Act of 22 December 2015 on the Integrated Qualifications System (IQS Act). More about the system and market qualifications can be found in the publication: *Ziewiec-Skokowska, G., Danowska-Florczyk, E., Stęchły, W. (eds). (2016). How to describe market qualifications for the Polish Qualifications System. A Guidebook. Warsaw: Instytut Badań Edukacyjnych.*



### 2.3. How are microcredentials defined by different stakeholders?

Interviewees suggested that the term 'microcredentials' is relatively new in Poland, and its meaning is somewhat blurred. It is easier to point to examples of 'microcredentials' than to define what they are.

'This is a fuzzy concept... it is more of an idea, a set of criteria that define a class of objects. I have not come across the precise definition that would always say what the microcredential is and what is not' IDI2.

'I have not come across such a term as 'microcredentials', but I assume that the point is that someone completes a training, takes a course and, as a result, may pass an exam, as a result of which he obtains a certificate confirming specific skills in a given field' IDI5.

Materials from the meetings of informal group on microcredentials revealed that the lack of widely accepted terminology and conceptual framework made it challenging to talk about microcredentials (MN1).

Moreover, several concepts related to microcredentials are used interchangeably:

'(...) there are various alternative terms: badges, various certificates, attestations (...) also new forms of credentials appear, while our market qualifications appeared as a representative, partially overlapping with microcredentials' IDI1.

Interviewees pointed out that the term 'microcredentials' is better known in higher education, where they are associated with massive online courses provided by Anglo-Saxon universities (IDI1, IDI2). On the other hand, digital badges are often used in the private sector - especially in large international companies.

'In the literature, there is a somewhat vague distinction between microcredentials and badges. Microcredentials usually function in higher education, and digital badges are used in the labour market context, informal learning. This division is not strict, however, but the terms are often used that way' IDI2.

Discussions regarding microcredentials revolve around the concept of microcredential, which is defined in a very general manner. It refers to a 'wide group of documents (or even more broadly: to a broad group of objects including documents and other forms of recording and representing the possessed skills), which serve to prove that their holders have specific skills' (MN1).

According to the interviews, the definition proposed in 'European approach to microcredentials' is good (IDI1, IDI2).

'It includes, in my opinion, all the necessary elements. The reference to qualifications systems is here, but it is optional. In general, they present a reasonable approach: microcredentials may or may not refer to qualification systems. For example, in the open badges standard, there is an alignment field - which indicates what else they can be combined with - with the university system, with the qualifications system, etc' ID2.

## 2.4. Are microcredentials or similar credentials referred to in policy discussions and strategic documents? What are the main activities related to microcredentials that are taking place in different contexts? What are the recent developments related to microcredentials?

One of the interviewees used accurate metaphor to summarise Polish initiatives regarding microcredentials:

'In Poland, microcredentials initiatives resemble an archipelago of small islands rather than a continent. It is an archipelago of several islets that are already beginning to see each other' ID2.

The main activities and policy developments related to microcredentials will be discussed in the following sections.

### 2.4.1. Government initiatives and Integrated Skills Strategy 2030

The Integrated Skills Strategy 2030 (ISS 2030) has the status of a public policy. It is the essential document indicating strategic goals and actions for developing skills under the idea of lifelong learning. The strategy does not mention the term microcredentials.

However, clear references to the idea of 'microcredentials can be found there. The detailed part of the Integrated Skills Strategy 2030 was published at the end of 2020. It defines VIII impact area as 'planning for lifelong learning and skills validation', and its main goal is 'Improvement of systemic solutions facilitating access to various forms of learning and enabling the recognition and certification of learning outcomes, regardless of how these outcomes were obtained'. Under action theme no. 24. 'Integration of formal, non-formal and informal learning, the

strategy mentions the following direction of action: 'developing and promoting validation and certification, including digitisation of staged accumulation and recognition of achievements.

One of the interviewees expressed hope that 'The Integrated Skills Strategy 2030' will help coordinate different initiatives around microcredentials:

'(...) There is no single partner or decision-maker. The problem comes from dispersed decision-making centres. The hope is that the ISS 2030 will give the chance of a broader view and political coordination of these activities. The IQS (Integrated Qualification System) gives, at least in detailed part, the possibility of providing the right tools for microcredentials' IDI1.

At the end of 2020, a microcredentials working group was established at the Ministry of Science and Higher Education. The group suspended its activities due to organisational changes in the ministry. In January 2021, the Ministry of National Education and the Ministry of Science and Higher Education ceased to exist, and the Ministry of Education and Science was established in their place. According to the interviews, the motivations for creating the group were rather external as the initiative came from outside the Ministry of Science and Higher Education. At the same time, no work related to 'microcredentials was carried out at the Ministry of Education:

'In public administration, the topic of microcredentials appeared in only one working group at the ministry of science (...) and only because there is a group created in the MICROBOL project. In turn, at the ministry education, plans to develop a repository or registry of microcredentials (understood as credentials other than qualifications) in the IQS were somewhat surprising' IDI1.

#### **2.4.2. Educational Research Institute and Badge+ project**

The 'microcredentials' debate continues at the Educational Research Institute, which plays a crucial role in supporting the implementation of IQS. These activities are carried out under several projects co-financed by European funds. At the same time, these projects provide a platform for debate and initiatives regarding microcredentials.

Initiative	Name of the project	Responsible institution	Scope of actions
Badge+	ZSK4	IBE	The project will develop a tool to digitise the staged process of collecting and recognizing achievements in the IQS. The role of this tool is to support IQS end-users in organizing their learning experiences. Experiences gathered in this way can lead to the market qualification. The development of the tool will be supported by social research.
Small Integrated Qualifications Register (IQR)	ZRK	IBE	The project is aimed at young audiences to help them get used to the IQS. The tool will make it possible to compare qualifications that reflect the different skills of children and young people. The tool is also intended to help young people plan their educational paths based on qualifications.
Children's and youth qualifications	ZSK4	IBE	The project is closely related to the, above mentioned, Small Integrated Qualifications Register (Small IQR). It aims to design children's qualifications for primary school students and youth qualifications for secondary school students. The qualifications will be developed on the model of scout badges and will be used for teaching purposes. They will feed Small IQR and help students learn about IQR.

Source: prepared by an author.

People engaged in the IQS-related projects started an informal discussion group on 'microcredentials'. It is open for people outside of the Educational Research Institute. The group meetings are organised monthly. The informal group on microcredentials set the following goals of its activity:

- (a) determining/establishing the relationship of various credentials with the IQS and qualifications, as well as developing appropriate concepts/narratives/resources;
- (b) building knowledge and competences related to skills credentials other than qualifications, which will allow the Educational Research Institute to prepare for building a register or repository of skills credentials;
- (c) establishing a forum for discussions, exchange of information on issues related to credentials and a place of obtaining this information for IBE employees and other people' (MN4).

The Badge+ is a key initiative in microcredentials, which is implemented within the framework of IQS projects in the Educational Research Institute. Its' goal is to develop a 'tool for digitizing the process of staged accumulation and recognition of achievements in IQS (...) the innovative tool will support IQS end-users in organizing learning experiences, the use of which in organisations may lead to obtaining qualifications' (ZSK4 application for funding). The project assumes building the IT infrastructure which will support the process of creating and using digital badges. It will be based on the Mozilla Open Badges standard 2.0 (with several extensions).

'The standard gives many possibilities for expansion - we have to decide on a specific, in our edition - tailored to our needs and the context of the IQS. Of course, there are similar applications, but they do not have Polish language versions. They are not suited to the IQS and the Polish context' IDI2.

The Badge+ project is not only an attempt to create a digital mirror for the IQS system. It also aims at creating a register of 'microcredentials that can lead to market qualifications.

'Badge + project goes in two directions. First, the aim is to digitise the issued market qualifications. Each CAs (Certifying Authority) will get a convenient tool to create and award digital publicly verifiable badges. Data on CAs and complete information on market qualifications included in the IQS (Integrated Qualification System) will automatically be loaded from the qualifications register. Digitisation covers not only the market qualifications but also their associated sets of learning outcomes. Second, a tool dedicated to a broader audience is being developed' IDI2,

Including 'microcredentials' in the register will be based on meeting certain formal requirements. However, it will be much easier than including market qualifications to IQS. The Badge+ project is at an early stage, but it has tight schedule:

'(...) We are finishing the business analysis regarding the system requirements, and we start programming in mid-June. The prototype of the application that will issue badges will be released in September. The one that will be ready for piloting (planned from January 2022) will be ready in early December. It goes very quickly - we could have a ready solution within 1.5 years, provided we manage to maintain project financing as it requires project extension) (...)' IDI2

#### **2.4.3. Initiatives within higher education sector**

At the same time, further initiatives related to microcredentials are emerging in the field of higher education. Warsaw University of Technology, with six other

European universities, participates in the ENHANCE Alliance. This ERASMUS+ initiative aims to create 'an innovative framework of European networks, fostering increased student and staff mobility and innovative forms of learning and engagement with society' <sup>(2)</sup>. One of the core activities of the alliance is building joint educational offer based on microcredentials:

'At ENHANCE, we see microcredentials to make our educational offer more flexible and thereby attract more diverse groups of learners, including non-traditional students seeking to change or update their skills portfolio and actively engage with new technologies. Offering such short forms of learning would, therefore, be a way to respond to the needs of society and part of our societal mission' (ENHANCE website) <sup>(3)</sup>.

ENHANCE microcredentials will be delivered as certified short online courses. The content of courses will be developed jointly with business and non-government partners. The thematic scope of courses focuses primarily on digital transformation and the green economy, but it will be gradually expanded.

Interviewees, asked about initiatives regarding microcredentials in higher education, also mentioned 'SPINAKER' programme <sup>(4)</sup>. It was started in 2020 by Agency for Academic Exchange (NAWA).

'At this point, the vision of MOOCs replacing higher education is very distant - we are not afraid that our students will run away to MOOCs. We are aware that the content offered as part of MOOCs is of very high quality, is really professionally prepared and it is difficult to break through here. Nevertheless, our university is trying to do just that and offers online courses in English. It is a safe investment, because MOOCs are also a tool for us to build recognition among foreign students. Given the high costs of preparing such materials, it is good to be able to benefit from public support here. We used the Spinaker NAWA program, which supports the construction of short, English-language on-line courses by Polish universities' IDI4.

The programme offers financing to expand the offer of Polish universities by new intensive international education online courses (from 30 to 150 hours), which are intended for foreign students. In this context, microcredentials serve to increase the internationalisation of Polish institutions of higher education and science.

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<sup>(2)</sup> <https://enhanceuniversity.eu/about-us/>, 9-06-2021

<sup>(3)</sup> <https://enhanceuniversity.eu/micro-credentials/>, 9-06-2021

<sup>(4)</sup> <https://nawa.gov.pl/images/Spinaker/NAWA-ulotka-Spinaker-PL-v2.pdf> , 9-06-2021

## 2.5. What is the extent to which microcredentials are used in the labour market related education, training and learning?

Conducted interviews showed that at least two factors explain the extent to which microcredentials are used in the labour market-related education, training and learning. The first refers to the size of a company and the second is its' internationalisation. Bigger, particularly international corporations, often use microcredentials or digital badges as their human resources development policy tools.

'Microcredentials are pretty common in large corporations. Global brands use them as an element of HR policy, which is also convenient for them. Moreover, it is easier for such companies to introduce a standard for digitizing achievements' IDI2.

Users of microcredentials are often people looking to acquire and document the specific skills needed in their work. In addition to the group of people who are looking for such opportunities themselves, it is worth distinguishing the category of people who are sent by their employers to various short courses or training necessary for their daily work and professional development.

'Motivations for attending such courses and acquiring microcredentials can be twofold, participants simply see the need to acquire knowledge or skills in a specific area related to running a business. Another category is participants who are directed by employers to courses and trainings. Then, apart from motivations related to acquiring knowledge and skills, there are also those related to meeting the expectations of current or future employers' IDI4.

In 2017, Statistics Poland (GUS) presented 'characteristics of the continuing vocational training in enterprises in 2015' – the results of the CVTS 2016 edition according to the methodology developed by Eurostat. Data on continuing vocational training in enterprises give some idea of the extent to which microcredentials are used in the labour market related education, training, and learning. The research carried out by Statistics Poland (GUS) did not use the microcredentials category in their research, but it can be assumed that at least some of the employee training reported by enterprises is related to microcredentials or alternative credentials. According to these statistics, 44.7% of the total number of enterprises conducted continuous vocational training in Poland. The share of companies providing continuous vocational training grew with the size class of enterprises. Among large enterprises, 86% units conducted training

courses, in medium-sized enterprises – 65.4% and small – 38.7% (Statistics Poland, 2017).

According to EUROSTAT statistics, the adult education and training participation rate in Poland in 2020 was 3,7% - much lower than the EU-27 average (9,2%). However, this measure seems very strict as it covers participation in formal and non-formal education and training in four weeks preceding the interview <sup>(5)</sup>. According to the 2019 edition of Study of Human Capital (BKL), which used a different methodology than EUROSTAT, among 25-64 years old Poles, almost 27% participated in formal or non-formal education last four weeks <sup>(6)</sup>. According to the 2019 BKL results, more than half (51%) of adult Poles use the Internet to acquire new knowledge and develop skills (Górniak, et al. 2020).

Adult Education Survey, which was conducted in Poland in 2017, provides more detailed information on the labour market-related education, training, and learning characteristics. In 2016, 46% of Poles aged 18-69 in Poland declared participation in any educational activities over the year. Almost 32% pointed out informal education (self-education), which was the most popular form of learning. Approximately three million adult Poles (11%) participated in formal education, and 20% took various courses and training (non-formal education).

The latter group might be considered as one of the main groups of the potential users of microcredentials <sup>(7)</sup>. For 78% of respondents who participated in non-formal education in 2016, it was related to their professional work. The average respondent who participated in non-formal education in 2016 spent 55 hours on this purpose. For 34% of respondents, the time spent on non-formal education did not exceed eight hours (Statistics Poland, 2018).

The surveyed trade union representatives (four people) represented various sectors of the economy, although it was mainly the education sector (three out of

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<sup>(5)</sup> [https://ec.europa.eu/eurostat/databrowser/view/sdg\\_04\\_60/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/sdg_04_60/default/table?lang=en), 8-06-2021

<sup>(6)</sup> BKL is the research project on competences, employment and labour market. It is conducted periodically since 2010 by the Polish Agency for Enterprise Development (Polska Agencja Rozwoju Przedsiębiorczości, PARP) and the Jagiellonian University in Kraków.

<sup>(7)</sup> It can be assumed that microcredentials, which are most often associated with courses and short learning programs, are the most common in non-formal education. Formal education is dominated by more time-consuming forms of education (e.g. postgraduate studies), which are too extensive to fit into the definition of microcredentials. However, microcredentials should not be equated with non-formal education only. There are many examples of microcredentials offered in formal education - for example, offered by some universities, MicroMasters, Nanodegrees or DUZs described in this report, which are offered by Polish VET schools.



six responses). According to the opinion of two out of four respondents, employees in their sector(s) sometimes use microcredentials. Among the main reasons for which employees in their sector (s) use microcredentials were indicated: (a) to attain promotion within the workplace; (b) to reskill and gain new knowledge, skills, and competences; and (c) To conform to collective agreements and other forms of employee-employer relations. According to three out of four respondents, employees in their sectors would probably benefit from a wider uptake of microcredentials for training and continuous professional development. Respondents also indicated what factors would influence a wider uptake of microcredentials by employees in their sectors:

- (a) recognition of microcredentials across sectors and borders (three responses);
- (b) flexibility in terms of mode of delivery (two responses);
- (c) low cost of microcredentials (two responses);
- (d) support from employers to seek microcredentials (e.g., free time, covering the costs) (two responses);
- (e) flexibility in terms of content (one response);
- (f) relevance of microcredentials to employees' career goals (one response);
- (g) inclusion of microcredentials in the training and continuous professional development program at the workplace (one response).

## 2.6. Who are the main actors providing learning activities leading to microcredentials and issuing microcredentials?

The main actors providing learning activities leading to microcredentials might be classified into four main categories:

- (a) international MOOC platforms;
- (b) national universities and MOOC platforms rooted in the Polish higher education sector;
- (c) VET schools and other educational institutions (continuing education centres and vocational training centres);
- (d) private training and education service providers.

### 2.6.1. International MOOC platforms in Poland

According to the interviews, massive open online courses are one of the most common associations with microcredentials in Poland.

'Microcredential is, in my opinion, a foreign and new term, not really used in any context other than those microcredentials related to MOOCs, provided mainly by Anglo-Saxon universities' IDI1.

Interviewees pointed at several well-known MOOC providers: Coursera, Udacity, EdX and Khan Academy. The same platforms are often mentioned in Polish media <sup>(8)</sup> or blogs <sup>(9)</sup>.

**Table 4. MOOC platforms**

Platform	Courses available in Polish language	Short description
Coursera	NO	MOOC platform collaborating with more than 150 universities providing 4–12 weeks long courses, usually paid. It offers full master's degrees.
EdX	NO	MOOC provider created by Harvard and MIT. Around 33 million students and 3000 courses consisting of weekly learning sequences. Courses are free, but the certification is paid. Provides Open edX platform software which might be used by other universities.
Khan Academy	YES	Provides free online tools and video courses that help educate students (from early childhood education to academic level)
Udacity	NO	An outgrowth of free computer science classes offered in 2011 through Stanford University; currently focuses on vocational courses for IT professionals. Offers paid programs and some free courses.
Udemy	YES	Platform allowing to build and conduct online courses. More than 40 million students, 155,000 courses and 70,000 instructors teaching courses in over 65 languages. Some courses generate credit toward technical certification, might be paid or not, depending on the instructor.

Sources: Wikipedia and providers' websites

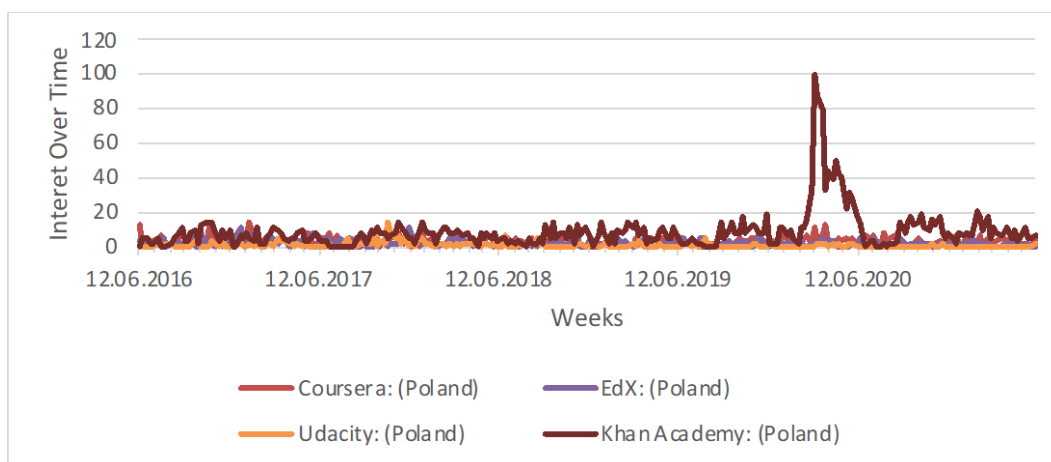
Google Trends allows for analysis of search terms used in Google over a period and by location. Running this analysis for the last five years reveals that Poland's most popular MOOC platform was Khan Academy (average interest over time, IOT

<sup>(8)</sup> Example of an article about MOOCs published in national newspaper <https://serwisy.gazetaprawna.pl/edukacja/artykuly/1466813,darmowe-kursy-online-mooc-gdzie-szukac.html>, 10-06-2021

<sup>(9)</sup> Example of self-improvement & personal development-oriented blog discussing MOOC courses: <https://jaksierozwijac.pl/najlepsze-kursy-online-darmowe-i-platne/>, 10-06-2021

- 9). This result seems to be an effect of the pandemic lockdown that forced remote education in Poland. Second place goes to Coursera (average IOT - 4), Udemy had a slightly low average IOT (3), and Udacity seems to be the least popular (average IOT - 1).

**Figure 1. Google searches in Poland for Coursera, Udacity, EdX and Khan Academy over last five years**



Source: Google Trends, Interest Over Time index <sup>(10)</sup>

### 2.6.2. National universities and MOOC platforms rooted in the Polish higher education sector

Polish universities are among the main actors providing learning activities leading to microcredentials and issuing microcredentials. In addition to bachelor's and master's programs and postgraduate studies, which are difficult to associate with microcredentials due to the considerable amount of work involved, HEIs offer a wide range of courses and training, both on-site and on-line. Certificates are issued for participation in such courses, some of them are preceded by the validation of acquired skills.

'(...) Apart from post-graduate studies, which of course are longer, and the related diplomas are hardly examples of microcredentials, our university organises a lot of shorter, mainly business-oriented courses, lasting from 20 to 40 hours: from team management, through accounting, practical skills in business. These are

<sup>(10)</sup> Numbers represent search interest relative to the highest point on the chart for the given region and time. A value of 100 is the peak popularity for the term. A value of 50 means that the term is half as popular. A score of 0 means that there was not enough data for this term', more details at: <https://support.google.com/trends/answer/4365533?hl=en>

short courses, the participants of which receive certificates of participation, issued by our university' IDI4.

Polish universities also offer courses on their MOOC platforms. Online courses complement their stationary educational offer addressed to students, delivered separately or as a part of blended or hybrid learning. The period of the pandemic and distance learning at universities fostered the development of such solutions. However, some of the (online) courses provided by Polish universities are accessible to a broader audience and might be leading to microcredentials (IDI1, IDI2).

'When you look at what MOOCs people are doing, the most popular are: Digital Marketing, Data Science, Programming - these are the most popular. Others are not that popular. Khan Academy is also quite popular. There are also national platforms, such as Navoica (...) The are courses offered by the European University and the Open University of Warsaw' IDI1. Some examples of such services are listed in the table below.

**Table 5. MOOC platforms of Polish universities**

<b>Platform</b>	<b>Institution</b>	<b>Description</b>
Open University of the University of Warsaw	University of Warsaw	Established in 2008, a precursor and a leader in the lifelong learning sector in Poland. It provides stationary, online and hybrid courses conducted by university lecturers on various topics. People outside the university pay small fees for participation in courses. Courses typically take 30-40 hours. After completing the training, each participant receives a diploma of participation. In some cases, UOUW offers a certificate printed by Polish Security Printing Works.
OKNO – Distance Education Centre	Warsaw University of Technology	Provides non-stationary bachelor or master's degree studies via Internet, based on the SPRINT model (blended learning).
e-SGH	Warsaw School of Economics	E-learning platform providing courses and materials for students enrolled in regular studying programs.
Copernicus College	Copernicus Centre for Interdisciplinary Studies of the Jagiellonian University	MOOC platform established in 2014 by Copernicus Centre for Interdisciplinary Studies. It provides free online courses conducted by Polish scientists. Currently, it has 45 courses and 26000 users <sup>(11)</sup> .

(<sup>11</sup>) <https://wydarzenia.interia.pl/nauka/news-na-uj-dostepne-sa-bezplatne-kursy-online-tematyka-od-astrono,nld,4426797>

NAVOICA	Ministry of Science and Higher Education	It is a platform for free online courses to be provided by different Polish academic institutions and universities. Currently, it offers 82 courses, mainly in the areas of IT and social sciences.
Kozminski University	Kozminski University	Kozminski University, a private university based in Warsaw, has a broad range of education programs in management, finance, economics, law, and other related fields, including short, online or stationary, courses.

Source: providers' websites

### 2.6.3. VET schools

VET schools <sup>(12)</sup> are not usually associated with microcredentials. A vocational education school allows students to obtain vocational qualifications confirmed by a vocational diploma. However, since 2019, the vocational education reform allowed for the extension of the scope of professional skills and knowledge that might be acquired at school. The extension covers additional elements going beyond the core curricula. Students, while studying at school, can:

- (a) prepare for additional professional qualifications (ex. higher category of driving license);
- (b) gain additional professional skills (as result of Additional Professional Skills course - DUZ);
- (c) obtain market qualifications functioning in the Integrated Qualifications System.

The links between market qualifications and microcredentials will be discussed later in this report. Additional Professional Skills (DUZ) courses are an interesting initiative in Polish VET. According to the interviews some of them are small enough to be considered as microcredentials:

'Under microcredentials, you can subscribe to the so-called "DUZ" (Eng. Additional Professional Skills). They are not digital, but they are new, something considerably smaller than qualifications and might be seen as microcredentials. They were introduced by the regulation on the core curriculum (placed in the separate attachment of core curricula) (...) DUZ attempts to expand the offer of vocational schools and tighten cooperation with employers (...) It is a proto qualification system, but very promising. Ministry of education is working quite intensively to expand their catalogue' IDI1.

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<sup>(12)</sup> As well as other public VET providers including: continuing education centres and vocational training centres.

Additional Professional Skills courses are designed to equip VET schools' pupils with small sets of skills and knowledge which are not included in the core curricula but might be helpful in their learned occupations. DUZ courses might be conducted in schools or at employers' sites as a part of company-based learning. The Education Development Centre (ORE) in Warsaw provides exemplary curricula for the DUZ courses. The following table shows several examples of such courses.

**Table 6. Examples of professional skills courses designed by DUZ**

<b>Additional Professional Skill (DUZ)</b>	<b>DUZ-related occupation(s)</b>	<b>Minimal number of training hours</b>
Service and repair of wheels in trucks	Driver mechanic	30h
Car detailing	Vehicle technician in automotive	240h
Testing of computer games	Programmer technician	150h
Construction of garden grills and smokehouses	Potter	60h
The use of the drone for organizing and tracking cargo transportation	Freight Forwarder Technician, Port and Terminal Operation Technician	60h

Source: The Education Development Centre, exemplary curricula for the DUZ courses <sup>(13)</sup>

#### **2.6.4. Private training and education service providers**

According to the National Register of Economic Units (REGON), in 2016, approximately 62,000 companies providing training services (NACE Class 85.59 - Other education), 25% of them were operating in Mazovian voivodeship (Krzysztofik, 2016). Some of the estimates indicate that Poland's training and consulting services sector is worth approx. PLN 6-10 billion <sup>(14)</sup>. This scale is comparable to, for example, the sports industry, which in 2018 generated PLN 9.63 billion of added value <sup>(15)</sup>.

<sup>(13)</sup> <https://www.ore.edu.pl/2021/02/produkty-projektow-konkursowych/>, 10-06-2021

<sup>(14)</sup> <https://ccnews.pl/2020/03/26/branza-szkoleniowa-kilka-tygodni-od-bankructwa/> , 10-06-2021

<sup>(15)</sup> <https://www.forbes.pl/biznes/wartosc-polskiej-branzy-sportowej-to-niemal-10-mlrd-zl/xxxh0y2> , 10-06-2021

The two central public registers of training companies in Poland are the Register of Training Institutions (RIS) and the Database of Development Services (BUR).

**Table 7. Public registers of training companies in Poland**

Register	Estimated number of training providers	Description
Register of Training Institutions (RIS)	12 650	The act of 20 April 2014 on the Promotion of Employment and Labour Market Institutions obligates all training providers cooperating with public employment services to sign up for the public Register of Training Institutions (RIS). The register is the most comprehensive data source on training institutions and courses offered to unemployed people and job seekers. RIS database included 137 000 different courses – only 20% of them end with an exam.
Database of Development Services (BUR)	3 882	Operating for five years, the Database of Development Services (BUR), run by the Polish Agency for Enterprise Development (PARP), is the public register of services for enterprises and individuals. The service enables access to training, vocational courses, consulting, postgraduate studies, mentoring offered by various providers. The database currently includes approximately 500 000 offers of training and consulting services which costs can be partially financed from the funds of the European Social Fund. Monthly, the database is used by 13 000 new users <sup>(16)</sup> .

Source: RIS and BUR online materials

However, a large part of training providers in Poland operates outside the registers mentioned above. A recent study on Poland's sector of training providers shows that this market is dominated by private entities (almost 82% in 2017 and 84% in 2019), operating primarily on the local and regional markets for at least 10 years. In 2019, 99% of the surveyed entities (98% in 2017) belonged to micro, small and medium-sized enterprises (Górniak et al. 2020).

The business report of 'Gazeta Finansowa' presents a ranking of over a dozen of the largest entities on the Polish training market <sup>(17)</sup>. The table below lists the five companies that had the largest number of individual and institutional clients in 2019. All of them have a broad spectrum of training offer, including finances, marketing, IT, law, business, foreign languages and interpersonal skills.

<sup>(16)</sup> <https://www.parp.gov.pl/informacje-o-bazie-uslug-rozwojowych>, 10-06-2021

<sup>(17)</sup> [https://gf24.pl/wp-content/uploads/attachments/rynek\\_szkolen\\_2.pdf](https://gf24.pl/wp-content/uploads/attachments/rynek_szkolen_2.pdf), 9-06-2021

**Table 8. Companies that provided training and had the largest number of individual and institutional clients in 2019**

<b>Training company</b>	<b>Revenues in 2019</b>	<b>Number of individual clients</b>
Konsorcjum szkoleniowo-doradcze GAMMA	35 264 000 PLN	30 046
Integra Consulting Poland	10 048 000 PLN	12 656
Grupa ODITK	9 265 000 PLN	11 322
CERTES	37 992 000 PLN	4830
ITFF	4 338 000 PLN	2241

Source: business report of 'Gazeta Finansowa'

An interesting initiative in microcredentials' area is the 'PARP Academy'. It is an educational portal for small and medium-sized enterprises with a free online training system. The portal was commissioned by the Polish Agency for Enterprise Development. The project aims to open access to business knowledge using remote education methods (e-learning). The training courses cover the following topics: 'strategic and operational management', 'managerial and personal skills', 'marketing and sales', 'financial and legal issues', 'general knowledge' <sup>(18)</sup>.

In May 2021, the PARP Academy offered 32 free online courses, had over 60 000 users and issued 50 000 certificates for participants of its courses. At the same time, the website registered over 130 000 courses enrolments, the most popular of which are 'How to Start Your Own Business (12 818 enrolments), 'Social Media in Business (11 657 enrolments) and 'Interpersonal Skills' (9 255 enrolments).

## 2.7. Who are the main users of microcredentials?

According to the survey answers of the representative of the VET provider, the recipients of his company's microcredentials (issued in the ICT sector) are people aged 15-54. The respondent did not know what the status of these people on the labour market is and what professions they most often represent. On the other hand, the answers provided by four representatives of trade union organisations show that microcredentials are most often used by employees aged 36-54, usually Professionals or Technicians and associate professionals.

As the interviews show, the motivations of users to collect microcredentials are most often related to the need to document their professional development, especially if it accompanies an attempt to change their career path:

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<sup>(18)</sup> OHS in the SME sector, issues related to intellectual and industrial property.



‘Perhaps if I wanted to make some kind of career turn, I would probably complete such MOCCs in order to show the future employer that I have systematic knowledge in this area’ IDI4.

Adult Education Survey gives a deeper look at the group of Poles participating in learning activities. Among Poles aged 18-69, 21% declared at the beginning of 2017 that in the last 12 months, they had participated in any form of non-formal education. The highest percentage of people participating in trainings and courses was among the employed (30%), while clearly lower among the economically inactive (8%) or the unemployed (8%).

Specialists (55%), technicians and other associate professionals (42%), representatives of public authorities, senior officials, and managers (41%) most often participated in non-formal education. Farmers, gardeners, foresters and fishermen (10%) and simple workers (12%) used training and courses least frequently.

Higher education level favours more frequent participation in non-formal education. In the 18-69 age group, non-formal education was most often attended by respondents with higher education (41%) and post-secondary education (24%). On the other hand, the courses and trainings were clearly less frequently used by people with basic vocational or lower secondary education (less than 10% of them participated in this form of education).

Among the middle-aged (25-44 years old) 25% participated in courses and training, and in the group of 35-39-year-olds, this percentage was the highest (almost 30%). Among the youngest respondents (18-24), the participation in courses and training was lower at 22%, most likely due to their ongoing formal education. The lowest percentage (5%) of participation in non-formal education was among the oldest respondents (65+).

In general, men slightly more often than women benefited from non-formal education (22% of men compared to 21% of women). However, the most significant advantage of male participation (almost four percentage points) in non-formal education occurred in the group of 35–39-year-olds. In turn, women aged 40-44 more often (an advantage of over five percentage points) of courses and training than men. City dwellers (25%) more often participated in non-formal education than rural dwellers (15%).

## 2.8. What are the main and most important characteristics of microcredentials?

According to the survey answers of the representative of the VET provider, microcredentials issued by their organisation in the ICT sector have several specified information elements: title of a microcredential; holder name; name of the awarding body; date of issuing; duration of validity; purpose, outcomes, scope of learning activities and results of assessment of the individual's knowledge, skills, and competences. The most popular practice of assessment for their microcredentials is automated assessment/assessment undertaken online. Respondent indicated various formats of certification used by his organisation: microcredentials might be issued in a paper format, secure or non-secure digital format.

Out of the four trade union representatives surveyed, only one indicated that their organisation offers microcredentials (from one to a maximum of five types). The respondent indicated that in the case of these microcredentials there is no formal assessment, the organisation offers microcredentials on its own, providing classroom-based learning activities. He indicated that the microcredentials offered by his organisation are issued in a paper format and contain information on holders' name, awarding body, date of issuing and duration of validity.

The definitions provided by the interviewees were based on the indication of several characteristics of microcredentials:

'Firstly, they should be characterised by a shorter learning cycle and a smaller content volume than classic credentials, e.g., qualifications and formal education diplomas. These are mostly two–four weeks courses'. Second, most often, it should be of practical importance to the person receiving it. The aim is getting an entitlement for a specific job, achieving a better position on the labour market, or a specific skill helpful in the labour market. Thirdly, we must specify the level of a given skill. An essential feature of microcredentials is that they create ecosystems. They create links with each other; one is more important, the other less, they can be linked together and get something more significant. Finally, the criteria for awarding microcredentials are also critical, and we always know what the badge/microcredential is being given for. IDI2

Discussions held on the forum of informal group on microcredentials revolved around similar characteristics of microcredentials:

- (a) they are characterised by a low level of work/time necessary to obtain a microcredential: 'microcredentials are often equated with the smallest verifiable skills or skill sets that can be put into practice' (MN3);

- (b) they have a small degree of connections with formal education: 'one of the features is the degree of formalisation...the weakness of such links to the education system, to formal education - they are located outside the system' ID11;
- (c) they are usually issued on basis of the verification of selected learning outcomes or the presentation of evidence and achievements (a product or the result of a specific task, based on colleagues' opinions or confirmation of participation in training) (MN1);
- (d) they might be characterised by lower levels of quality assurance standards: 'the prefix micro can also refer to the fact that the microcredential is less formalised, or it has been issued for a specific purpose. For example, it has not passed the complete validation cycle or has undergone a special simplified procedure for checking the achievement of learning outcomes. Additionally, this type of confirmation might not be widely recognizable' (MN3);
- (e) can be analogue or digital (MN1, 3);
- (f) they often have a motivational function and are related to gamification and distance learning (MN3).

In summary, microcredentials usually share the following main characteristics:

1. relatively low number of required learning hours (often related to short learning programmes)
2. usually related to non-formal education (however, might be awarded within the context of formal education),
3. related to the acquisition of a set of specific learning outcomes, usually related to professional activity, which are subject to some form of validation
4. characterised by lower levels of quality assurance standards,
5. issued in digital or analogue form, but usually contain at least information about a title of a microcredential; holder name; name of the awarding body; date of issuing and the scope of acquired knowledge or skills
6. can function in educational 'ecosystems' where they combine and accumulate with other microcredentials.

## 2.9. **Are there any sectors / occupations where microcredentials are prevalent, relevant, and important? Please provide a detailed overview of the use of microcredentials in the sector / occupation.**

The highest percentage of participation in non-formal education is visible in occupations where continuous professional development is particularly required.

The latter need arises from various factors: rapidly advancing technological changes, the growth of scientific or professional knowledge or frequent changes of law order. The same needs might be fuelling the use of microcredentials <sup>(19)</sup>.

Thus, according to the interviews (IDI1, IDI2, IDI4, IDI5), microcredentials are popular in sectors specializing in the development of IT technologies (software development, computer systems administration and IT management, cloud solutions) or heavily dependent on IT technologies (data science and research, digital marketing).

‘Obviously, the more digital an industry is, the more it is related to the digital sector, the more often microcredentials appear there, and the more popular they are. Microcredentials users are mainly graphic designers, game developers, naturally programmers, IT managers (agile, scam). Generally, almost all IT-related courses lead to microcredentials. Most often in the form of open badges because it is the most popular format’ IDI2.

‘These types of credentials, which can be called microcredentials, are common in the ICT sector. Obviously, their common use in the industry depends on the professional role and the ICT area we are talking about. They are certainly popular in the case of new technological solutions that are just entering the market and where there are not too many specialists. Cloud solutions are a good example, there are a lot of these technologies, companies are willing to switch to such solutions and there are relatively few people who know it. This knowledge is not very common - that is why the main providers of these solutions Google, Amazon, Microsoft offer their educational and certification paths. In other words, when introducing a technology to the market, they immediately provide educational facilities for people who would use it and a certification path that would allow to confirm skills in this technology’ IDI5.

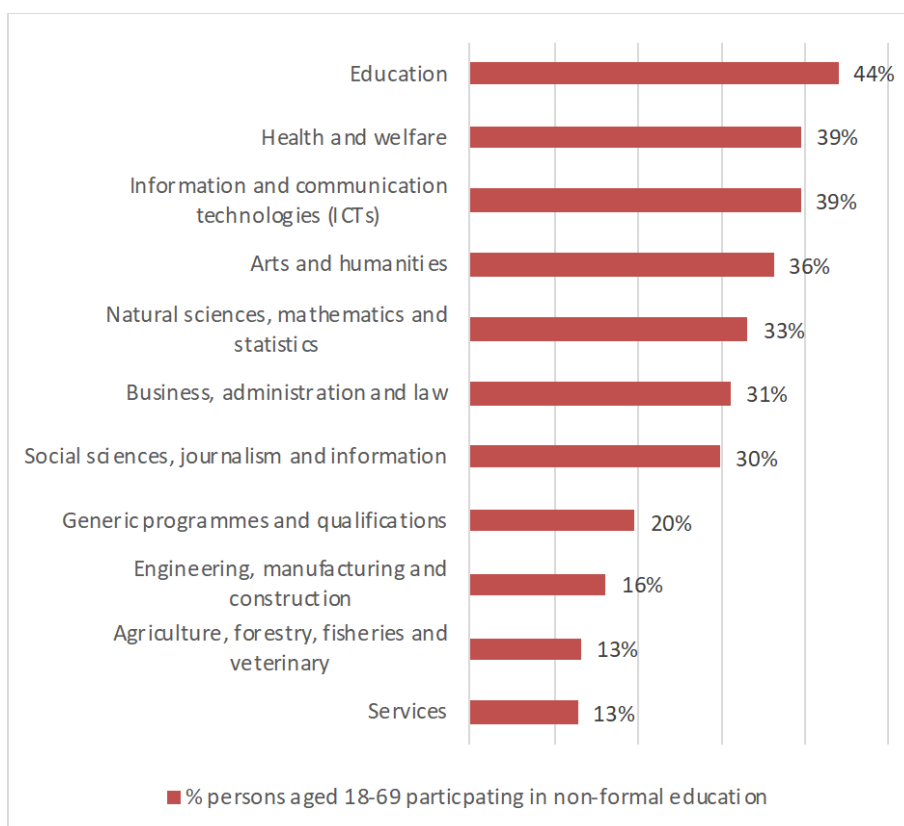
Available statistics confirm these opinions. According to Adult Education Survey, people educated in the field of ICT belonged to the categories whose representatives most often participated in non-formal education in 2016 (Statistics Poland, 2018).

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<sup>(19)</sup> It is worth noting that microcredentials also exist outside of non-formal education, within formal education. Examples, covered in this report, include the courses and training provided by the universities or VET schools. On the other hand, most educational activities in non-formal education are related to the issuing of various credentials, including microcredentials. Thus, activities in non-formal education are a good lead for those who are looking for answers about sectors / occupations where microcredentials are prevalent, relevant and important.

A similar mechanism might be observed in the healthcare sector. The rapid growth of scientific medical knowledge and emergence of a new technologies force doctors and other medical workers to improve their qualifications constantly. Moreover, medical chambers formally require doctors to participate in different forms of non-formal and formal education. Thus, among respondents educated in health and social care occupations, the participation rate in non-formal training was also very high (39.5%).

**Figure 2. Percent of people participating in non-formal education by the field of their completed education (2016)**



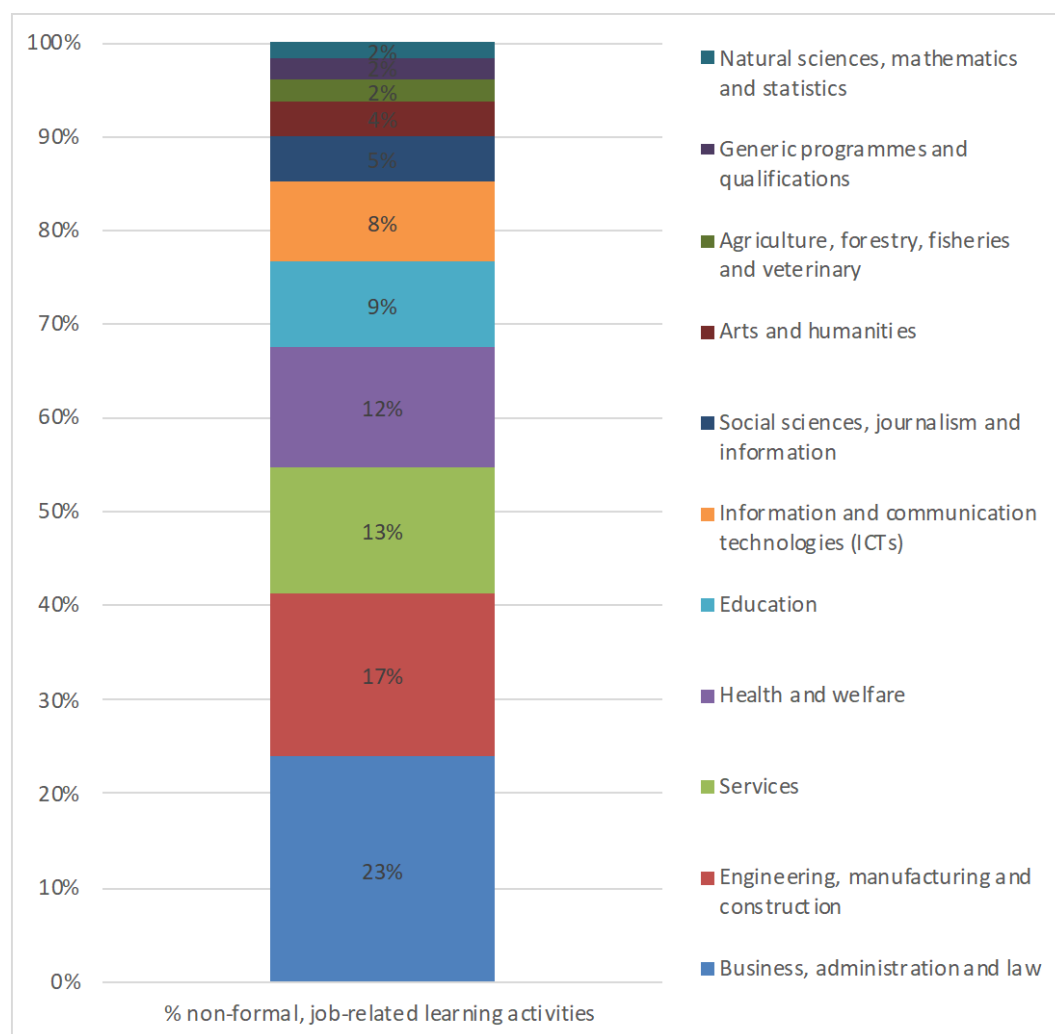
Source: Adult Education Survey 2016 (Statistics Poland, 2018)

The record-breaking percentage of participation in non-formal education among respondents with a pedagogical education (43.9%) is partly due to a formal system of professional promotion of Polish teachers. Educational law obliges teachers to participate in courses and training on the path of professional advancement.

Respondents of Adult Education Survey were also asked about fields of their non-formal job-related learning activities. The most frequently reported educational activities were related to business, administration and law (23.5%), technology,

industry and construction (17.1%), services (13.4%), as well as health and social care (12.5%). However, almost 40% of reported job-related, non-formal education activities did not exceed eight hours of workload. The latter might suggest that respondents reported participation in short on-the-job training or compulsory Occupational Health and Safety training, which do not lead to any microcredentials (Statistics Poland, 2018).

**Figure 3. Most popular fields of non-formal job-related learning activities (2016)**

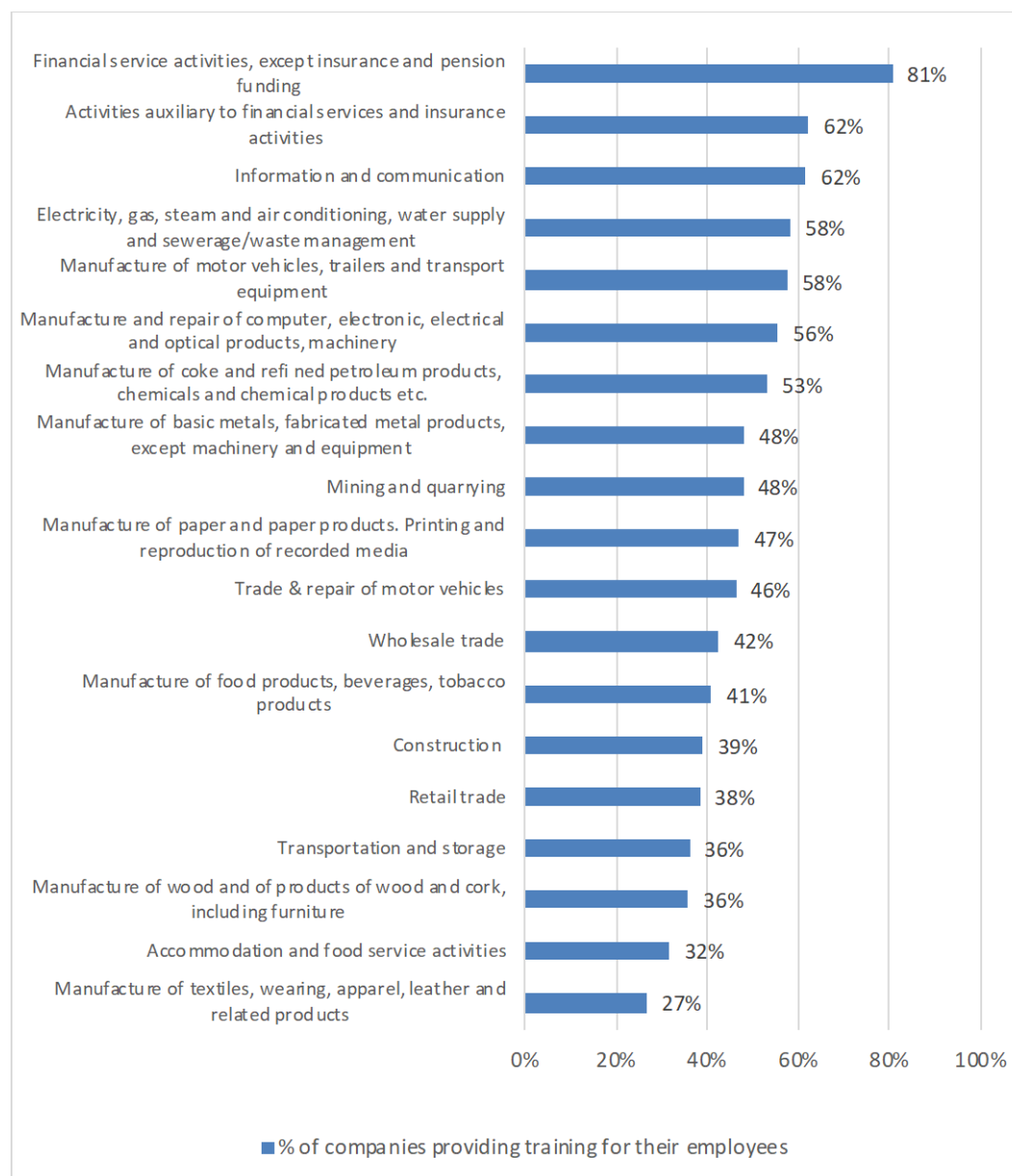


Source: Adult Education Survey 2016 (Statistics Poland, 2018)

Another way to identify sectors / occupations where microcredentials might be prevalent, relevant, and important, is to look at the % of enterprises providing

training and courses for their employees. Enterprises from financial, insurance and ICT sectors are the most active in this field.

**Figure 4. Percent of enterprises providing continuing vocational training for their employees by NACE sections (2015)**



Source: Characteristics of the continuing vocational training in enterprises in 2015 (Statistics Poland, 2017)

### 2.9.1. Education

According to Adult Education Survey 44% of respondents educated in the pedagogical field participated in non-formal education in 2016 (Statistics Poland, 2018).

Professional development of teachers relates to continuous improvement of their qualifications. This is influenced not only by formal regulations related to the professional promotion of teachers, but also by relatively frequent changes to the educational law, modifications to the core curricula and changes to textbooks used in their work. Changes in the educational law or textbooks force the constant updating of teachers' knowledge and skills (IDI3).

Most of the training activities related to microcredentials school-based education end with the award of certificates confirming participation. Certifications are relevant for teachers who participate in the formal career path but also 'are always well seen by the management' (IDI3).

Trainings cover different topics, for example working with a difficult student, drug addiction prevention, pedagogical supervision and documentation at school, the use of ICT in teaching, etc. The average teacher with a completed career promotion path participates in training three-four times a year, and teachers during the professional promotion process may participate in training even more often (IDI3).

The procedure of professional promotion of teachers is a process defined by the educational law to improve the qualifications of teachers. This solution was introduced in 2000, more than half of the teachers working in Polish schools have already achieved the highest level of promotion. The path of professional development of teachers in Poland includes four levels: trainee teacher '*nauczyciel stażysta*', contract teacher '*nauczyciel kontraktowy*', appointed teacher '*nauczyciel mianowany*' and certified teacher '*nauczyciel dyplomowany*'. Among the tangible benefits of achieving successive levels of promotion, one should mention an increase in remuneration.

Achieving each of the levels of promotion requires, however, to accumulate a certain length of service (seniority), meet the minimum requirements for the given promotion level, which are verified in the qualification procedure, and pass the exam. The course of the internship for each promotion level is determined by the individual professional development plan. However, the plan must comply with the requirements set out in the education law. Certain skills have been identified among the requirements related to the course of the internship for each promotion



level. One of the forms of confirming these skills is participation in courses and training leading to microcredentials.

Educational services leading to microcredentials in the school-based education sector are usually organised by teacher training institutions (supervised by the minister for education), school textbook publishers and providers of IT solutions for schools (electronic journals and IT systems supporting school management). One of the largest non-public providers of such training, present on the market for over 19 years, claims that it provides training for over 90 000 teachers annually <sup>(20)</sup>.

The use of microcredentials in the higher-education sector is less formalised than in the case of school-based education. Academic teaching staff usually conducts scientific research at the same time. Thus, it is often difficult to separate the microcredentials related to improving didactic competences from those related to scientific work (for example: developing a methodological workshop can serve both research and teaching). Nevertheless, the need for continuous improvement of knowledge and competences is in fact inherent for the work in higher-education sector.

Academic researchers and lecturers take care of their professional development by attending summer schools, workshops or using available MOOCs. Summer school participants receive diplomas confirming participation in such events.

‘(...) We all go to conferences, where we not only present research results, but also learn various things. We also get formal confirmation of participation in such conferences... There are also various summer schools that are more targeted at the early stage of a research career (PhD and post-doc). They last from a few to several days, and in most cases do not end with formal examinations, but participants usually receive some form of confirmation of participation in the summer school’ IDI4.

The most valuable confirmation of participation in the conference is the related publication, and information about participation in the conference is often recorded in the CV. Trainings and courses related to teaching activities are usually organised by universities which provide language courses or training in the new teaching methodologies (e.g., through business cases, distance learning):

‘(...) Our university also participates in the program co-financed by the National Center for Research and Development. This program allowed us to

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<sup>(20)</sup> <https://www.librus.pl/produkty/centrum-ksztalcenia-nauczycieli/>, 10-10-2021

finance short training sessions in a variety of skills that can be used in your teaching work. Examples of training topics include selected aspects of research methodology or work with data, e.g. the basics of programming in 'Python'. The trainings last from a few to a maximum of 20 hours, we get such an offer at least once a month. Training is conducted by other employees from the university, within additionally paid (from the project) hours. Some of them assume the completion of a short test related to the subject of the training before and after the training. For participation in training, we receive diplomas confirming participation, but this is not my main motivation to take part in such training. I honestly don't even think about it. But there is a good idea - it helps not only to develop the competences of the university staff, but also provides additional motivation for its employees to share their knowledge and experience with other employees' ID14.

It is worth emphasizing, however, that microcredentials in the higher-education sector seem to be of secondary importance to the practical skills and knowledge imparted on courses that lead to these microcredentials. This is because both research and teaching activities conducted at the university are assessed on the basis of measurable criteria (scored publications and research grants, evaluation of classes conducted by the lecturer). From the perspective of a higher education institution, such indicators provide more valuable information on skills of their employees than microcredentials:

'I must have signed up for some 40 MOOCs and only completed one of them, which I still consider a great success (...) In my situation, when I continue my academic path, other objective criteria of my professional position (publications, grants) are more important (...) In the case of MOCC it is often more about acquiring specific skills than confirming them. Perhaps if I wanted to make some kind of career turn, I would probably complete such courses in order to show the future employer that I have systematic knowledge in this area' ID14.

### **2.9.2. Information and communication technology**

According to Adult Education Survey 39% of respondents whose field of education is related to the ICT sector participated in non-formal education in 2016 (Statistics Poland, 2018).

The ICT sector is extremely diverse in terms of the specifics of its sub-sectors and related professional roles. Nevertheless, it can be assumed that this is an area where the use of microcredentials is developing extremely dynamically. Interestingly, the term 'microcredentials' itself is not particularly known in the ICT industry, the terms such as open badges are used more often, and the most

common are specific courses, trainings, bootcamps leading to obtaining certificates confirming specific technical skills.

According to the interviewee, this type of certification is common in the ICT industry, but most often it accompanies the latest technologies, products, or project management methodologies (IDI5). This applies especially to situations where there are still relatively few specialists in a given area on the market, while the provider of a new solution wants to ensure that customers will be able to take full advantage of its technological advantages.

A good example are technologies related to cloud computing, especially those provided by large external suppliers in the 'infrastructure as a service' model. The largest providers of such solutions, Google Cloud, Amazon Web Services and Microsoft Azure, both offer their own training services and conduct accreditation of training companies that train in their technologies:

'(...) Cloud solutions are an excellent example, because Amazon AWS, Azure Microsoft or Google Cloud certification are the main products on the market, there is a lot of e-learning associated with it. Private companies are also entering this training market - they are subcontractors of technology providers in the field of training and certification, they are accredited by mother centres (technology providers) (...) Another area is the area of DevOps (development and operations) - people who program, maintain frameworks - environments on which developers later create applications. Here, too, certification paths are popular, to a lesser extent, because here we have more specialists on the market than in the case of cloud solutions. Here, the certificates are of great importance: the DOCKER and KUBERNETES solutions are one of the most popular, and Microsoft's certificates have Windows Containers and Hyper-V containers are also known. By selling technology, these suppliers are also selling an educational service that will allow the use of this technology' IDI5.

However, suppliers usually carry out certification in the field of sold technologies. These types of microcredentials are to guarantee the necessary level of knowledge and competence in implementing a new technology:

'Technology with ready-made educational services is available for sale - more customers will be interested in it, because there will be people who will be able to learn and use it' IDI5.

According to the interviewee, having appropriate certificates is particularly important in the case of ICT in the public sector (also in private companies providing services to public entities), where formal qualifications and certification of IT experts are often expected. In the private sector, the pressure on certification

is lower - larger employers check the actual skills of candidates in the recruitment process and the key factor determining the value of the candidate is his experience in a given technology:

‘In the private sector, every large company relies on a recruitment process that verifies the skills and knowledge of candidates - a portfolio, a github account, and a certificate are then helpful, but not crucial. In the public sector, government or EU institutions often require their own employees or the employees of their ICT service providers to formally certify the technology in a given area - then official certification by an accredited provider is essential’ IDI5.

Nevertheless, microcredentials are of great importance in the ICT industry, where more and more people without formal IT education find work:

‘Software developers more and more often do not have formal IT education - IT studies are becoming less and less important, I think that at least 1/3 of people from IT I work with do not have such studies. I was working with a guy after rehabilitation, and he decided to change business because he thought computer programming was cool - he was doing very well’ IDI5.

For such people, microcredentials proving knowledge of a specific technology or software language are the entry gate to a career in ICT:

‘Courses and bootcamps are important for market entrants, such as junior positions (this also applies to people who want to change industries). However, the certificate itself is not enough here - their skills are verified in the recruitment process anyway. It is also important that the course is an absolute minimum, which gives a hint on what to focus on in terms of self-development - but it's not that only during the course you can learn to code’ IDI5.

## CHAPTER 3. Analysis of microcredentials and evolving qualifications systems

The following parts of the report discuss relationships between microcredentials and Polish qualification system and functioning credit systems:

- (a) microcredentials links with Polish qualification system – objectives, roles, integration mechanisms. Overall impact of microcredentials on the overall education and training system (3.1);
- (b) microcredentials links with credit systems (3.2.);
- (c) accumulation and integration of microcredentials with other qualifications (3.3).

### 3.1. Chapter summary

- (a) The Polish Integrated Qualification System (IQS) covers full qualifications awarded in the formal education upon completion of specific stages of education and several types of partial qualifications, which might be awarded by different types of institutions, organisations, and associations. One of the essential types of partial qualifications are the non-statutory (market) qualifications - a considerable part of them, especially those requiring less than 200 hours of study work, might be classified as microcredentials or alternative credentials.
- (b) The IQS provides friendly institutional environment for microcredentials. However, high quality assurance standards set within the system and effortfulness of the process of adding a market qualification to the IQS can pose significant barriers to many microcredentials.
- (c) There are many microcredentials that are too small or cannot be included in IQS due to formal or operational reasons. The project Badge+ (described in previous chapter) aims to create an open register for such microcredentials and it might be seen as an attempt to fill the gap in IQS.
- (d) Microcredentials delivered by higher education institutions might be linked to European Credit Transfer System. The MICROBOL project investigates whether and how the existing Bologna tools can be used or need to be adapted to be applicable to microcredentials. Project focuses on examining the adequacy of ECTS for microcredentials.
- (e) The Act of 22 December 2015 introducing the Polish Integrated Qualification System (IQS) allows "gradual accumulation and recognition of achievements"

- existing provisions open vast possibilities of accumulating and combining microcredentials with other qualifications.

### 3.2. How are microcredentials linked to and/or integrated into qualifications system? How do they operate outside national qualifications system?

The Polish Integrated Qualification System (IQS) was introduced by the Act of 22 December 2015. IQS introduces consistent rules and standards for creating, describing, adding to register, awarding, and comparing different types of qualifications.

IQS covers full qualifications awarded in the formal education upon completion of specific stages of education and several types of partial qualifications. Partial qualifications might be awarded not only within formal education system, but also by different types of institutions, organisations, and associations. By the end of 2019, there were 10 000 qualifications entered in the Integrated Qualifications Register.

**Table 9. Qualifications in the Integrated Qualifications Register**

Full/partial qualifications	Type of qualifications	Number
Full qualifications	From higher education and science.	9092
	From the formal general and vocational education system	490
Partial qualifications	From the formal general and vocational education system	336
	Non-statutory (market) qualifications	55
	Statutory (regulated) qualifications	25
	awarded after completion of post-graduate studies	2

Source: Balińska and Kopyt (2020)

Qualifications in the IQS present various levels of requirements in terms of knowledge, skills, and social competences. The average amount of time needed to master the learning outcomes required for a given qualification might also be very different. However, achieving many of the non-statutory (market) qualifications is possible in less than 200 hours. Thus, a considerable part of IQS market qualifications might be considered as microcredentials or alternative credentials (Stęchły and Nowakowski, 2021).

According to the interviews IQS provides institutional environment where microcredentials might work (IDI1, IDI2). Microcredentials are usually designed to face similar problems and provide analogous functions as qualification systems, but they are restricted to certain sectors or occupations. Qualification system provides standardisation and institutional background ensuring mutual trust and quality of credentials. However, Polish IQS has serious approach towards quality assurance standards – that is a high barrier to entry for many microcredentials:

‘If we are looking for a more systemic approach to microcredentials in Poland, it must happen within IQS. Of course, there may be many roads, but the reasons for placing open badges in the ZSK are strategic. The IQS is an open system thanks to market qualifications. The role of microcredentials in this system is up to us. In Poland, we are very focused on quality assurance in the IQS. This is important and necessary in the system but can be a barrier in the case of microcredentials. In the context of microcredentials, the question arises, where is the place for quality?’ IDI2

IQS cannot be seen as the place for all types of microcredentials, because adding market qualification to IQS requires a considerable amount of work and resources.

‘The IQS is a tool, but a tool not designed for everyone - it is an elite tool. The system is also about building a benchmark that can be pursued (...) IQS gives a friendly tool for a large part of the credentials. Unfortunately, it involves some costs (financial, resource consumption), which may exclude the participation of smaller entities. The system sees a mature form of institutionalisation, it requires developed certification standards, people who will deal with the assessment’ IDI1.

Therefore, there are many microcredentials that are too small or cannot be included in IQS due to formal or operational reasons. The project Badge+ (2.3.2) aims to create an open register for such microcredentials and it might be seen as an attempt to fill the gap in IQS:

‘... Microcredentials (covered by Badge+) could be such a vestibule for the IQS. Certain conditions would have to be met to be there. Microcredentials fill this gap. They are not required to have such a degree of formalisation, so much attention to assessment, sometimes a knowledge test is enough, and it is already said that it is microcredential and confirms something. No one cries about it because it is not about that everything is checked that you must prove 100% in your case (...) my goal is that such a vestibule is something we are missing. That is, to involve people and entities in this logic of thinking about the formulation of goals and learning outcomes, selecting an accurate and reliable assessment. It

does not have to be complete. To introduce such concepts into practice, it is good to have a place where those who are not ready to take a big step take smaller ones, get used to the situation, and see more they can do. This is the gap' IDI1.

However, there are some risks related to such an approach to microcredentials in IQS – particularly the 'effect of cannibalisation':

'... as in Grisham's Copernicus Law, where bad money displaces good money. Here, under certain circumstances, it may come to the point that everyone will be satisfied with this vestibule... especially if the financing were for being in the vestibule, people would simply hit there, and that will be the end of their path (...). Perhaps it is a matter of system calibration and the relationship between the atrium and the system. There is no such debate' IDI1.

### 3.3. How are microcredentials linked to credit systems?

According to the interviews (IDI1, IDI2), microcredentials delivered by higher education institutions might be linked to European Credit Transfer System. Universities offer the possibility of gaining additional ECTS points for participation in extra-curricular activities, sports events etc. The MICROBOL project (Microcredentials linked to the Bologna key commitments) investigates whether and how the existing Bologna tools can be used or need to be adapted to be applicable to microcredentials <sup>(21)</sup>. Project focuses on examining the adequacy of ECTS for microcredentials.

Similar debate already started within the IQS. The main question is how the qualifications might be break into smaller, confirmable parts:

'These could be sets of learning outcomes or possibly learning outcomes. Although there is a problem with the latter (...), we do not have information about whether they are there, but we do have information on how to check them - it is a complication. For practical reasons, we do not consider how the learning outcomes can be shared. When integrating microcredentials into a system, the primary decision is what we want to validate: sets of learning outcomes, specific skills, whether to extract the primary skills in a given set and only confirm them. Smaller blocks give more flexibility, but too small parts are impractical. (..) We will pilot this and try to do it. The most likely route is with sets of learning outcomes' ID2.

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<sup>(21)</sup> <https://microcredentials.eu>, 11-06-2021



According to the surveyed representative of the VET provider, some of the ICT microcredentials offered by his organisation are related to IQS and related to the credit system, but they are not attributed to the EQF (European Qualifications Framework).

### 3.4. **Can microcredentials be accumulated and combined with other qualifications?**

The Act of 22 December 2015 introducing the Polish Integrated Qualification System (IQS) allows "gradual accumulation and recognition of achievements". It theoretically opens vast possibilities of accumulating and combining microcredentials with other qualifications.

'The first idea on how to approach microcredentials in IQS is article four of the Act – the system provides for "gradual accumulation and recognition of achievements" (...). Article 48 of the Act says that Certifying Authorities may recognise achievements achieved elsewhere in stages. In the light of these provisions, in principle, it can be concluded that an amendment to the Act is not needed to implement microcredentials into the system' IDI2.

The described mechanism remains inactive so far, but Badge + has significant hopes for it.

'Microcredentials can be put into circulation and could be increased in value if qualifications were to accumulate achievements beyond and informal learning - if we could imagine that qualifications are designed and distributed in such a way that (...) the microcredential are used for recognition when validating qualifications - it would also create value for credentials for people and organisations, but this does not work yet. This is a more difficult task - technically, and it is a further step' IDI1.

According to the answers of the representative of the VET provider in the survey, all of the ICT microcredentials offered by his company can be accumulated and combined with each other. They might be combined into larger credentials or added to a learner's individual account/personal portfolio. The respondent also stated that some of the microcredentials offered by his organisation might be accumulated and combined with other qualifications given by other organisations into a full qualification.

## CHAPTER 4. Analysis of microcredentials and the added value for end users

The final chapter focuses on the benefits of using microcredentials for different groups of their end users:

- (a) types of need fuelling the use of microcredentials in Poland (4.1);
- (b) main benefits of microcredentials for end users and microcredentials' contributions to Polish qualification system (4.2);
- (c) reasons for trust and distrust in microcredentials in Poland (4.3).

### 4.1. Chapter summary

- (a) The development of microcredentials results from the need to move to a learning paradigm that will better meet the needs of learners who must meet the challenges of rapid growth of the scientific knowledge and constant technological change.
- (b) Microcredentials, delivering smaller portions of knowledge / skills and equipped with simplified methods of their validation, better match the labour market needs. Microcredentials might be seen as a useful, auxiliary tool increasing the flexibility and adaptivity of educational systems.
- (c) The main benefits of microcredentials for end-users are associated with the flexibility and effectiveness of the learning process. In the context of job-related education and training, microcredentials prove to be a good tool for the most effective delivery of specific professional skills or knowledge. Microcredentials might also fulfil an important motivational function, encouraging more people to participate in life-long learning.
- (d) Microcredentials might bring the added value for IQS – serving as the system vestibule, they might help with spreading the idea of IQS and adding new qualifications to the system.
- (e) One of the central issues of the debate on microcredentials is their credibility and quality. The main factors limiting the level of trust in microcredentials include: doubts about the quality of some microcredentials, no agreed standards for quality assurance of microcredentials, uncertainty as to whether certain microcredentials will be recognised by national authorities, employers, or education/training providers.
- (f) Trust in microcredentials is most often based on the reputation of a certifying institution. In contrast, IQS has a strong emphasis on quality standards and

validation procedures built into the system itself. Nevertheless, the quality assurance mechanisms for microcredentials should be based on self-regulation: the most trustworthy, high-quality microcredentials will prove their credibility on the market.

#### 4.2. **Is there a need for microcredentials? Why do different stakeholders need microcredentials?**

In a global economy characterised by the rapid growth of scientific knowledge and constant technological change, education systems must become more flexible and adapt to changing environments.

‘The very genesis of microcredentials lies in the fact that we experience such rapid technological advances that there is a need to change the learning paradigm, to change the way of looking at lifelong learning. It is worth noting that the transition from primary school to graduation takes about 17 years (...) We start education in one technological era, and we can finish it in a completely different era. Microcredentials are not only about better matching the labour market needs, but it is also about adapting to the needs of the learners (...)’ IDI2.

Labour-market related education and training must follow legal changes and product or process innovations in business. The ongoing technological or legal changes might be mirrored by formal requirements of professional development in certain occupations or sectors (as it was discussed in section 2.6). Microcredentials, delivering smaller portions of specialist knowledge and skills and simplified ways of confirmation/ certification of these learning outcomes, meet these needs. It is important to stress that microcredentials are not necessarily related to professional activity. They often serve as self-development tools, ways to pursue hobbies. Thus, ‘microcredentials might be seen as a useful, auxiliary tool increasing the flexibility and adaptivity of educational systems:

‘The need to supplement formal education is not new. It was always possible to gain knowledge and skills outside of school. There were interest clubs, additional classes, libraries. In the context of the development of microcredentials, the possibility of confirming achievements seems new, primarily digitally (...) Microcredentials are not meant to replace formal education. It is supposed to be a supplement that allows you to create several stages of development. Formal education is essential, it teaches us to think, develops our memory, and many necessary skills - sometimes it is too general. However, it does not allow to deepen some things. This is what microcredentials are for, that based on what you have learned, you will develop in the direction that interests you’ ID2.

According to the survey answers of the representative of the VET provider, the need for microcredentials will grow in the future. There are several reasons for that. First, microcredentials help to encourage lifelong learning behaviour among individuals and better respond to the changing labour market needs. They also help with upskilling and reskilling the workforce, addressing structural unemployment and skills needs in emerging sectors of the economy where qualifications are not yet formalised.

#### 4.3. What are the main benefits / added value of microcredentials for end users (e.g., learners, education and training providers and employers)? What value do microcredentials bring to the overall qualifications system?

According to the survey answers of the representative of the VET provider, microcredentials have advantages over traditional forms of qualifications and other forms of competence recognition:

- (a) content is more relevant to labour market needs;
- (b) flexibility makes them more suited for upskilling and reskilling needs;
- (c) format allows for speedy response to labour market needs;
- (d) they are suitable for lifelong learning purposes;
- (e) they allow for portability of skills for the learners.

Two out of four surveyed trade union representatives also agreed that microcredentials have advantages over traditional forms of qualifications - among the advantages of microcredentials they indicated that:

- (a) their content is more relevant to the needs of the labour market (two responses);
- (b) their format allows for speedier response to the needs of employees (two responses);
- (c) their format allows for speedier response to the needs of employers (two responses);
- (d) they facilitate validation and recognition of employees' knowledge, skills and competences (one response).

According to the interviews (ID11, ID12), the main benefits of microcredentials for end-users are associated with their flexibility. In the context of job-related education and training, microcredentials prove to be an effective tool for the most effective delivery of specific professional skills or knowledge.

As microcredentials are usually small, their achievement is less time consuming, but still they might cover valuable skills and knowledge which might be

accumulated with other credentials. At the same time, 'microcredentials are interrelated and create ecosystems which might serve as a reference in the processes of individual learning and self-development.

'The motivational aspect of microcredentials is also new. If a mini ecosystem of microcredentials in some field is created, you can see where you are. You can see where you can get from here. You can see where you were two months ago. It motivates you. It shows you this development. It helps you realise what you can do and where you can go with it, what you can do about it. The genesis of microcredentials, and digital badges, in particular, refers to hunter-gatherer instincts. You get that badge. It's yours. A graphic symbol fulfils this function - these are medals, digital decorations - it motivates and allows you to show them outside' IDI2.

Thus, microcredentials might fulfil an important motivational function, encouraging more people to participate in life-long learning (MN3).

Moreover, microcredentials, particularly those in digital form, are just comfortable to use, both for learners and employers. They are helpful if there is a need to prove the achievement of specific skills or expertise.

'We cannot be surprised that microcredentials are digital. They are digital because it is simply the most convenient, most straightforward, fastest, most reliable (...) if you were to realise where your diploma is, I know mine is somewhere. However, I have no idea where ... in the case of microcredentials, it is convenient. With one click, you know where you have it - it is in your digital repository...' ID2.

As it was discussed in the previous chapters (3.1), microcredentials might bring the added value for IQS – serving as the system vestibule, they might help with spreading the idea of IQS and adding new qualifications to the system.

'Some microcredentials will not be included in IQS but may lead to market qualifications registered in the system. It makes sense because IQS's idea is that people learn throughout their lives. Microcredentials can set the path of this learning and lead to the market qualification. Existing methods of validation of achievements (e.g., analysis of evidence and declaration) allow that IC recognises the achievement through a badge that clearly shows criteria and points at the evidence (e.g., portfolio). IDI2

#### 4.4. Are microcredentials trusted among different stakeholders? What are the main reasons for trust / distrust in microcredentials? What are the conditions for ensuring the trust in microcredentials?

In the opinion of the surveyed representative of the VET provider, microcredentials are trusted both by employers and learners to 'a large extent'. However, microcredentials are trusted by education and training providers only to 'a small extent'. The main reasons for the lack of trust towards microcredentials are, according to this respondent, the following problems:

- (a) national authorities do not recognise microcredentials;
- (b) there are no agreed standards for quality assurance of microcredentials;
- (c) they are not compatible with the national qualification's system/framework/catalogue.

Among the trade union representatives surveyed, three out of four expressed their opinion on the level of confidence of workers in their sectors towards 'microcredentials'. Two of them said that microcredentials (whether they lead or not to nationally recognised qualifications) are trusted among most or some employees in their sectors. One respondent believed that microcredentials are not trusted among employees in his sector(s). Among the reasons for the limited trust of employees in their sectors in microcredentials, the respondents mentioned:

- (a) there is no common definition for microcredentials (two responses);
- (b) there is uncertainty whether education and training providers recognise microcredentials (two responses);
- (c) it is a new form of credential that is not well known (one response);
- (d) there is uncertainty about the quality of microcredentials available (one response);
- (e) there is uncertainty whether employers recognise microcredentials one response).

One of the central issues of the debate on microcredentials is their credibility and quality.

'Much of the discussion around microcredentials touches upon the issues of credibility, trust and legitimacy' IDI1.

The learners and employers' trust in microcredentials is built mainly upon the credibility of their providers.

'Microcredentials in the form of badges are usually based on the authority of the certifying institution (e.g., IBM, Oracle etc.). The most popular MOOCs build credibility on the same principle, using the university's reputation. Some badges are awarded by individuals (e.g., on LinkedIn someone can recommend a person) – such a credibility building strategy is based on relationships between people. IQS is based on standardised procedures, and it is yet to generate trust between participants in the system' ID11.

IQS has, on the other hand, a strong emphasis on quality standards and validation procedures. The quality assurance mechanisms for microcredentials should be, to some extent, self-regulating. In other words, the most trustworthy, high-quality microcredentials will prove their credibility:

'Market qualifications have built-in quality assurance mechanisms. In the case of microcredentials, we will approach quality differently. In an open register, we will create badges' classes associated with certain verification standards. The criteria will have to be translated into specific tasks related to a given badge (...). The publisher of the badge is responsible for the quality of the criteria, verification of whether they have been met, and the quality of this verification. The quality of the badge is assured when its holder has to demonstrate the acquired skills. Thus, quality assurance is based on the relationship between the issuer, holder, and those who use the badge - e.g., employers' ID2.

## List of abbreviations

BUR	Database of Development Services
CAWI	Computer-Assisted Web Interviewing
ECTS	European Credit Transfer System
EQF	European Qualifications Framework
EU	European Union
FRSE	Foundation for the Development of the Education System
IBE	Educational Research Institute
ICT	Information and Communication Technology
IOT	Interest Over Time
IQS	Integrated Qualification System
ISS	Integrated Skills Strategy
MOOC	Massive Open Online Course
NAWA	Agency for Academic Exchange
PARP	Polish Agency for Enterprise Development
REGON	National Register of Economic Units
RIS	Register of Training Institutions
SGH	Warsaw School of Economics
VET	Vocational Education and Training



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## Annex 1 List of interviewees

<b>IDI</b>	<b>Date</b>	<b>Interviewee profile</b>
IDI1	19-05-2021	Expert in the field of higher education and the Polish Integrated Qualifications System
IDI2	21-05-2021	Expert in the field of microcredentials, digital badges, open badges etc.
IDI3	19-10-2021	Certified teacher (primary school)
IDI4	20-10-2021	Academic teacher and researcher
IDI5	20-10-2021	IT expert and manager (private company)

<b>Materials from the meetings of informal group on microcredentials</b>	<b>Details</b>
MN1	Notes from the group meeting: 24-03-2021
MN2	Notes from the group meeting: 24-02-2021
MN3	Notes from the group meeting: 24-01-2021
MN4	Notes from the meeting: 19-05-2021