Open Badge Network
Discussion Paper on Open Badges at Policy Levels

<table>
<thead>
<tr>
<th>Outcome 05-A1 - Discussion Paper on Open Badges at Policy Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Document information</strong></td>
</tr>
<tr>
<td>Declared due date of deliverable: 30.07.2016</td>
</tr>
<tr>
<td>Reviewed due date of deliverable: 31.07.2016</td>
</tr>
<tr>
<td>Actual submission date: 31.07.2016</td>
</tr>
<tr>
<td>Organisation name of lead contractor: Beuth Hochschule für Technik Berlin</td>
</tr>
<tr>
<td>Revision: Final</td>
</tr>
<tr>
<td>Authors</td>
</tr>
<tr>
<td>Ilona Buchem: Beuth Hochschule für Technik Berlin</td>
</tr>
<tr>
<td>Erik van den Broek: Dienst Uitvoering Onderwijs (DUO)</td>
</tr>
<tr>
<td>Nigel Lloyd: Cambridge Professional Development</td>
</tr>
<tr>
<td>Reviewer</td>
</tr>
<tr>
<td>Organisation</td>
</tr>
<tr>
<td>Erik van den Broek: Dienst Uitvoering Onderwijs (DUO)</td>
</tr>
</tbody>
</table>

**Copyright licence:** This work is licensed under a Free Culture Licence Creative Commons Attribution-ShareAlike 4.0 International License.

*The creation of these resources has been (partially) funded by the ERASMUS+ grant program of the European Union under grant no. 2014-1-DE01-KA203-00675. Neither the European Commission nor the project's national funding agency DAAD are responsible for the content or liable for any losses or damage resulting of the use of these resources.*
Imprint: This publication is a Discussion Paper by the Open Badge Network, URL: http://www.openbadgenetwork.com/ Erasmus+ strategic partnership founded by the European Commission 2014 - 2017 under 2014-1-DE01-KA200-000675. This paper is the first policy-oriented document produced as part of Outcome 5 “Open Badges at Policy Levels” and aims at identifying relevant stakeholders, creating awareness among policy stakeholders, exploring potentials and risks of Open Badges by means of an online survey and consultations with selected policy makers and establishing links to existing EU policies.

PDF download: A full-text PDF of this report is available as a free download from http://www.openbadgenetwork.com/outputs/policy-levels/


Corresponding author:
Prof. Dr. Ilona Buchem
Professor for Communication and Media Sciences
Beuth University of Applied Sciences
Department of Economics and Social Sciences
Luxemburger Str. 10, D-13353 Berlin
buchem@beuth-hochschule.de
Executive Summary 4
What are the objectives of this paper? 4
Who does this paper address? 4
What topics does this paper cover? 5
Contributors 7
Acknowledgements 7
1. Aims and Scope 7
2. Background and Rationale 8
  2.1 Case Study: Open Badges for Career Success 8
  2.2 Theory and History of Educational Credentialing 10
  2.3 Open Badges as Digital Credentials 14
  2.4 Technologies for Open Badges as digital credentials 15
    2.4.1 Open Badges Metadata 15
    2.4.2 Open Badges Infrastructure 18
  2.5 Transforming Credentialing with Open Badges 20
3. Relevant Policy Areas and Approaches 22
  3.1 Rationale for Establishing Open Badges at Policy Levels 22
  3.2 Current Policy Approaches to Establishing Open Badges 27
  3.3 Relevant Policy Stakeholders 30
4. Related Policies and Initiatives in Europe 35
  4.1 New Skills Agenda 36
    4.1.1 Digital Skills in Education 38
    4.1.2 Digital Skills in Employment 43
  4.2 Lifelong Learning 45
    4.2.1 European Skills/Comptences, Qualifications and Occupations (ESCO) 46
    4.2.2 The European Frameworks (EQF, Europass, ECVET, Skills Panorama) 47
    4.2.3 The European Inventory on validation of non-formal and informal learning 48
  4.3 Open Education 49
    4.3.1 Open Educational Practices (OEP) 49
    4.3.2 Open Educational Resources (OER) 51
    4.3.3 Open Courses and MOOCs 53
  4.4 Summary 55
5. Policy Recommendations Research: Methodology and Results 57
  5.1 Results of the European Policy Online Survey 57
  5.2 Results of the German Policy Online Survey 63
  5.3 Results of the European Commission Consultations 65
  5.4 Results of the Europass Consultations 66
  5.5 Results of the PIAAC Consultations 67
6. Summary 69
References 70
Appendix - Online Survey “Policy Recommendations for Open Badges” 74
Executive Summary

The Erasmus+ strategic partnership “Open Badge Network”: [http://www.openbadgenetwork.com](http://www.openbadgenetwork.com), brings together organisations from across Europe to support the development of an Open Badge ecosystem, promoting the use of Open Badges to recognise non-formal and informal learning. One of the key strategic aims of Open Badge Network is to initiate a discussion among policy-stakeholders and formulate recommendations for establishing Open Badges at policy levels in Europe and beyond. The ultimate aim is to formulate a rationale and provide recommendations for policy makers based on which a process of change and integration of Open Badges in educational, vocational and employment policies could be based and implemented.

Open Badges are Web-enabled tokens of learning and accomplishment (Casilli & Hickey, 2016). Mozilla Open Badges as an open standard allows all competencies, skills, achievements and learning pathways to be recognised and shared across the web. Schools, universities, employers and informal learning providers globally are already using open badges to capture life long learning which is currently unrecognised.

What are the objectives of this paper?

This Discussion Paper is intended to stimulate discussion around possible modes of adoption of Open Badges at policy levels. It may serve as an orientation for those in charge of education and employment in integrating Open Badges into their policies, by taking into account the inherent diversity of how Open Badges may be used, the specific needs of key stakeholders including issuers, earners, endorsers and viewers, as well as conditions under which Open Badges may operate in the contexts of formal, non-formal and informal education.

The paper is also meant to be of use to the Open Badge Network itself in charting out the main direction of its White Paper on Open Badges Policies, which builds upon this discussion paper and the follow-up discussion in a larger network to draft approaches, guidelines and directions for establishing Open Badges as policy levels in Europe.

This Discussion Paper is a contribution of the Open Badge Network to the ongoing debate on potentials and challenges of Open Badges, especially in their use as digital micro-credentials. It is an important step towards establishing support for Open Badges in different educational contexts in Europe and worldwide.

Given the complex challenges facing formal, non-formal and informal education in the twenty-first century, there is a need for cooperation of diverse stakeholders and a harmonisation of a diversity of views and approaches related to the further development and modernisation of credentialing systems. This document should therefore be regarded as a complementary work to many other developments under way in this field in Europe and beyond.

Who does this paper address?

This paper addresses representatives of policy making organisations, especially from the areas of education and employment policies at regional, national and supranational levels.
A comprehensive list of policy stakeholders who should be involved in establishing Open Badges at policy levels in Europe is included in section 3.3 of this paper. This list is ordered by the area of competency (education, employment) and the area of influence (regional, national, supranational).

This paper provides policymakers with an overview of the basic principles, concepts and applications of Open Badges as instruments of digital credentialing, with the results of the first targeted analysis of potentials and challenges of using Open Badges as micro-credentials from the perspective of policy-makers in different European countries and formulates some first actionable recommendations for policy-makers that will support them in developing, implementing and evaluating digital credentialing policies, strategies and action plans.

What topics does this paper cover?

This Policy Discussion Paper aims at establishing a rationale for Open Badges as a digital credentialing instrument as well as outlining options and possible paths of adoption of Open Badges at policy levels. It points to links to relevant policy areas and formulates recommendations about establishing relationships with existing EU tools/policies (RPL, EQF, ECVET, EHEA, Europass, ESCO, EQAVET, EURES) and incorporating badges into European national and sectoral policies. Finally, this paper identifies relevant policy stakeholders and explores the opinions of policy stakeholders about the potentials and risks of Open Badges by means of empirical research including online surveys and on-site consultations with selected experts. The aims and the scope of this paper are outlined in Chapter 1.

Chapter 2 provides some key background information and establishes a rationale for Open Badges as digital credentialing instruments. This chapter begins with a case study in section 2.1 illustrating an exemplary digital credentialing practice with Open Badges in order to set out a rational for further elaborations and discussion related to establishing Open Badges at policy levels. Section 2.2 provides an overview of the theory and history of educational credentialing. Section 2.3 describes Open Badges in their function as digital credentials and proposes to rethink current credentialing practices in view of new opportunities provided by Open Badges. Section 2.4 introduces some of the key technologies for digital credentialing with Open Badges. Section 2.5 discusses the transformative potential of Open Badges in view of credentialing.

Chapter 3 defines relevant policy areas and relevant initiatives in Europe in order to embed the discussion on Open Badges in a wider discussion on education in Europe and beyond. This chapter begins with a policy rationale for establishing Open Badges in Europe in section 3.1, especially in view of (a) the recognition of lifelong learning, (b) validation of Open Education such as MOOCs, (c) better socio-economic outcomes, and (d) up-skilling the low-skilled. Section 3.2 provides an overview of policy approaches, mainly from the USA and in UK, which may be adopted to the European context and helpful for establishing Open Badges in Europe at policy levels. Following the description of current policy approaches to establishing Open Badges in the USA and UK and derived recommendations for adaption of these approaches to the European context, section 3.3 provides a list of policy stakeholders who should be involved in establishing Open Badges at policy levels in Europe.

Chapter 4 presents three selected policy frameworks which are highly relevant for establishing Open Badges at the European level. The aim of this section is to connect to existing policy frameworks which have already gained substantial attention in Europe and beyond. Section 4.1 starts with the recent EU New Skills Agenda and discusses one of its principal components – Digital Skills Agenda – in relation to Open Badges. Section 4.2 establishes links to the EU Lifelong Learning policies in Europe, showing how Open Badges may be applied to support diverse
competency frameworks for lifelong learning. Finally, section 4.3 provides a link to a broader and global discussion about Open Education, including Open Educational Practises (OEP), Open Educational Resources (OER) and Open Courses such as MOOCs, and explains why it is crucial to include Open Badges as elements of Open Education in Europe and beyond.

Chapter 5 focuses on the policy recommendations research conducted in the Open Badge Network project to elicit the opinions of policy makers about Open Badges in view of digital credentialing. In order to explore the perspective of European policy stakeholders on Open Badges, five research instruments have been applied in the Erasmus+ Open Badge Network project. The methodology and the results of this research are presented in the following sections:

- Section 5.1: Results of the European Policy Online Survey led by Beuth University of Applied Sciences Berlin (DE) conducted from the beginning of April until the beginning of June 2016 with selected European policy makers from countries represented by project partners as well at the EU level.

- Section 5.2: Results of the Germany Policy Online Survey led by Beuth University of Applied Sciences Berlin (DE) conducted as part of a master thesis in summer semester 2016 focusing on establishing Open Badges at policy levels in Germany and supervised by Prof. Dr. Ilona Buchem.

- Section 5.3: Results of the European Commission Policy Consultations led by Cambridge Professional (UK) with selected European policy stakeholders in Brussels in May 2016.

- Section 5.4: Results of the Europass Working Group on Innovation Consultations conducted by Dienst Uitvoering Onderwijs (DUO), ministerie van onderwijs cultuur en wetenschap (NL).

- Section 5.5: Results of the PIAAC Consultations conducted by ARTES (IT) with the National Project Manager of PIAAC Italy (Programme for the International Assessment of Adult Competencies - PIAAC, OECD).

This paper ends with a summary in Chapter 6 and provides both a list of references and the online survey tool as the Appendix in the final sections of this paper.
Contributors

Prof. Dr. Ilona Buchem, is a professor for Communication and Media Sciences at Beuth University of Applied Sciences in Berlin, Germany. She is the coordinator of the Open Badge Network strategic partnership founded by the Erasmus+ program. Her research and teaching focus on the intersections of digital media and society, including digital media design and communication, digital media sociology, media research and digital media economy.

Erik van den Brook, Dienst Uitvoering Onderwijs (DUO), ministerie van onderwijs cultuur en wetenschap, the Netherlands. Erik has a medical and an IT background. From 2005 consultant at DUO/International services, coordinator for the Dutch National Europass Centre and co-chair of the Europass Innovation working group.

Nigel Lloyd, is Principal of Cambridge Professional Development (UK, since 1994) and CamProf Inc (Canada, since 2010). He is an expert in competence-based approaches to professional development in a multi-cultural environment. Initially a civil engineer on overseas rural development projects, since 1989 he has worked across Europe (and then Canada) on projects developing occupational standards, professional and vocational qualifications, recognition of prior learning, implementing the Bologna and Copenhagen processes.

Acknowledgements

The authors would like to acknowledge with gratitude all those who have made a significant contribution to the publication of this discussion paper, including all project partners for their contributions, feedbacks and comments. Special thanks go to all the representatives of the national policy-making bodies for the participation in the online-survey on policy recommendations and to our direct EU policy respondents for on-site consultations in Brussels in 2016. We would like to thank the Erasmus+ program for the financial support it has granted to support the Open Badge Network in establishing Open Badges in Europe through which this publication has been made possible.

1. Aims and Scope

This Discussion Paper is part of the efforts of the Open Badge Network Erasmus+ strategic partnership in promoting and establishing Open Badges in Europe and beyond.

This discussion paper is the first policy-oriented document in the Open Badge Network project. It provides policy-makers with an overview of the basic principles, concepts and applications of Open Badges as instruments of digital credentialing, with the results of the first targeted analysis of potentials and challenges of using Open Badges as digital credentials from the perspective of policy-makers in different European countries and formulates some first actionable recommendations for policy-makers that will support them in developing, implementing and evaluating digital credentialing policies, strategies and action plans.
The discussion paper specifically aims at:

1. establishing a **rationale** for Open Badges as a digital credentialing instrument as well as outlining options and possible **paths of adoption** of Open Badges at policy levels,
2. Formulating **links** to relevant policy areas and **recommendations** about establishing relationships with existing EU tools/policies (RPL, EQF, ECVET, EHEA, Europass, ESCO, EQAVET, EURES) and incorporating badges into European national and sectoral policies,
3. identifying relevant policy stakeholders and exploring **opinions of policy stakeholders** regarding potentials and risks of Open Badges in relation to education and employment in Europe by means of an online-survey and on-site consultations with selected experts.

This paper encompasses the results of the **first cycle** of the development of policy recommendations in the Open Badge Network project. Building on this Discussion Paper (O5-A1, led by Beuth University of Applied Sciences Berlin, Germany), the follow-up White Paper (O5-A2, led by DUO, the Netherlands), will use the key discussion strands presented here to draft more advanced policy guidelines and outline more concrete future directions for establishing Open Badges as policy levels in Europe as part of the **second cycle**.

### 2. Background and Rationale

This section provides an introduction to Open Badges embedding the current discussion about digital, open credentials in broader developments of the credentialing system. This section is divided into four subsections which cover the following topics establishing a common ground and a springboard for further discussion in the subsequent sections of this discussion paper:

- **A case study illustrating the application of Open Badges in practice** (section 2.1)
- **Short summary of history and current status of educational credentialing** (section 2.2)
- **Establishing rationale for Open Badges as digital credentials** (section 2.3)
- **Applications and tools for using Open Badges as digital credentials** (section 2.4)
- **Transforming credentialing practices with Open Badges** (section 2.5)

#### 2.1 Case Study: Open Badges for Career Success

The following case study illustrates possible uses of Open Badges as digital credentials and aims at highlighting the potentials of Open Badges for unlocking new opportunities for education and employment.
CASE STUDY “ELISA: CONNECTING INFORMAL LEARNING WITH CAREER SUCCESS”

Elisa is a 28 year old mining engineer from Spain living in Germany. She studied at the Higher School of Mining Engineering (HSME) of the University of Vigo in Galicia, Spain. She graduated with a Master degree in mining engineering in 2011.

She has lived in Germany since 2012 and has not been able to find an adequate employment in her professional field. To earn her living Elisa works in an office as a part-time assistant, mainly translating web content and updating content on a web portal. Elisa specialises in sustainable development and is an author of a number of publications on environmental mining engineering.

She would like to work in an international consultancy in a technical sector and take on management tasks. Elisa is an avid social media user and likes connecting to professionals from her field from all over the world. In her spare time, Elisa participates in free online courses provided by global MOOC providers such as Udacity and Coursera.

She enjoys learning on her own and successfully completes a suite of courses related to management, coding and software design. Upon completion of free online courses she earns Open Badges which certify her newly acquired business and software skills. Additionally, Elisa engages in an Open Sources online community and provides pieces of code as a contribution to a growing repository.

To acknowledge her code contribution, the open source community issues her an Open Badge which certifies her coding skills. However, Elisa is not only a person who likes to spend her time in front of the screen. She is socially engaged and helps out in a kindergarten for refugee children near her home town in southern Germany.

To recognise her engagement, the refugee kindergarten awards her with an Open Badge for social engagement. Elisa collects her Open Badges in her Badge Backpack.

One day she finds a job posting from a large, international consultancy in Munich, Germany. She applies for the job and includes the links to her professional profile in LinkedIn, where she displays her Open Badges.

The rich portfolio of Open Badges certifying her lifelong learning efforts, her business and IT skills as well as her social engagement and digital literacy in using Social Media and Open Badges to build her professional profile and global network, get her an invitation to a job interview in Berlin.
2.2 Theory and History of Educational Credentialing

The proliferation of credentials has been an enduring trend of modern times. Credentials help establish the position, authority or identity of the holder.Credentialing has been defined as a process through which a person is approved or recognised by an authority (Buon & Compton, 1990). Credentialism on the other hand has been considered as the pursuit of credentials to upgrade entry qualifications for an occupation without a substantial change in the knowledge or skill required for the job (Buon & Compton, 1990). Educational credentialing has been studied by a number of scientific disciplines including economy, sociology and psychology. Below we outline some of the key tenets of the three fields.

From an economic perspective, educational credentials have been studies as an economic phenomenon, especially in relation to employment and the use of credentials in context of “hiring as investment under uncertainty” in future workers (Spence, 1974). Most notably, signalling theories such as the job-market signalling model by Michael Spence, recipient of the 2001 Nobel Memorial Prize in Economic Sciences, argue that holders of credentials use credentials to signal their competence to employers to reduce such uncertainties (Spence, 1974). From this perspective, educational credentials fulfil a signalling function and job-seekers select credentials as signals to maximise their employment opportunities. Thus hiring can be considered as a signalling process, in which an employer interprets the credentials of job-seekers as signals to distinguish one applicant from the other, providing informational feedback to the employer over time and narrowing the information gap (Spence, 1974).

From a sociological perspective, educational credentials have been studied as a socio-political phenomenon, especially in relation to the proliferation of formal education, the emergence of status-group through attainment of formal credentials, stratification of occupational and educational pathways through credentials, development of professional credentialing markets controlling entry barriers to employment and the sources of credential inflation or degree inflation (cf. Brown, 2001; Jónasson, 2004; Collins, 2011). Most notably, the Weberian theory of educational credentialism considers the competition for credentials as one of the key elements of stratification of modern societies (Brown, 2001). According to this theory, individuals seek credentials in order to enhance their competitive strength in the job market (Jónasson, 2004). Formal education is the most common area for credentials, with a huge variety of types assessment practices and quality criteria. The creation of certificates by universities, colleges and further education have driven the expansion of formal education in the 20th century (Collins, 2011). In fact, credentialing has been considered as a driving force in the growth of education systems, which can be measured by an increasing numbers of participants worldwide (Jónasson, 2004).

From a psychological perspective, educational credentials have been studied in view of personal management and recruitment practices, especially in relation to employers’ requirements for educational credentials, the perceived value of educational credentials as predictors of future work performance, the use of educational credentials in job screening processes (cf. Buon, 1993; Buon & Compton, 1990). For example, Buon & Compton (1990) point out that the inclusion of credentials in hiring processes has to be connected with other methods of assessing the suitability of a person for a position, such as functional job analysis and the position analysis questionnaire, in order not to discriminate employees without credentials.
Following the outline of some of the key tenets of credentialing theories, we now provide a brief history of credentialing arriving at the current status of educational credentialing in Europe. Writing developed from about 3500 CE and required formal teaching. But even pre-literate societies formally educated their members in songs, poetry, stories, rituals, history and genealogies. Proficiency was usually reflected in a special status and title: elder, bard, priest, teacher – these could be considered as some of the first forms of credentialing. The passing on of skills and associated professional expertise was usually within the family (“from father to son”) or through a form of apprenticeship in an occupation. In ancient Babylon, the Hammurabi Act of 1780 CE required craftsmen to train younger generations in their craft. The credentials were awarded by the authorities or, since at least the 13th century in Europe, by guilds of craftsmen.

"After a specialised examination supervised by the guild, the apprentice was “discharged” and became a journeyman. Journeymen's vocational qualifications were recognised in other countries. It was common for journeymen to travel from place to place in order to broaden their vocational competences. After years of experience, the journeyman could submit a piece of his best work to the appropriate guild for assessment and approval. If the piece of work was accepted, the journeyman became a master craftsman. This gave him the right to set up his own workshop and to train apprentices himself." (Eberhardt & Poulsen, 2016).

Ancient scholarly higher-learning institutions were developed in many cultures all over the world including the Indian subcontinent, East Asia, Europe and the Near East. The ancient centres were usually run as cathedral schools, monastic schools, and schools at mosques (madrasas). In Europe the Catholic church was the principal source of education through cathedral schools and monasteries throughout the Middle Ages. University as autonomous organisations emerged in the medieval Europe and this model was adopted in other world regions.

The Reformation and its political, philosophical, cultural and religious movements led in the 16th century to civic schools set up to provide formal education to children, while the universities trained students for the professions. In the 17th and 18th centuries classes were added to teach the emerging science and technology that led to and were required by the industrial revolution.

Credentials were first used in the 19th century, with the main purpose of protecting the public by showing the competence of the professional (Husen & Postlethwaite, 1984). In the late 19th century, most of West, Central, and parts of East Europe began to provide universal (compulsory) elementary education in reading, writing, and arithmetic. In the 19th century technical colleges were set up in all the major cities to provide the theoretical knowledge required by the apprentices and technicians. The dual vocational system was introduced in North German Federation (Norddeutscher Bund) also in the 19th century.

“Paradoxically, the process of industrialisation in Europe did not produce one uniform vocational training model. On the contrary, it more or less destroyed the roughly homogeneous craft-trade-based vocational training methods which had established themselves over the centuries, and replaced them with a myriad of ‘modern’ education systems, which at first glance seem to have very little in common” (Greinert in CEDEFOP 2004, p. 18).
For example, in 1878 the City of London together with 16 guilds set up a training college to provide evening classes for apprentices. Over time, City & Guilds of London Institute has evolved into a leading worldwide awarding body specialising in vocational credentials.

Many occupations were recognised as being important for public health and safety, environment and economy of individuals, communities and enterprises and started being regulated by credentials to ensure competent performance. As more people became literate, the major nations were giving further attention to secondary education by the time of World War I. For the most part the educational qualification was a school leaving certificate (such as Baccalauréat in France, Abitur in Germany, Matura in Poland) intended as an entry to higher education. In UK it was replaced by a set of single-subject exams which could be taken in any subjects.

Since the 1970s there has been a widening realisation of the importance of lifelong learning, and of the domains relating to skills and attitudes/values - that it is the outcomes of learning. Learning outcomes may be achieved by many different learning paths. This has led to the adoption of Learning Outcomes (LOs) as the basis for all degrees under the European Higher Education Area, and as the basis for the European Qualifications Framework (EQF), both of which have stimulated substantial on-going educational reform reaching well beyond the European Union and even beyond Europe. Increasingly LOs are based on occupational standards: specifications of what a competent practitioner needs to know and be able to do in the workplace. In addition there are transferable employability skills that underpin competent performance in all occupations, for example the EU's 8 Key Competences for Lifelong Learning (2006) and the OECD’s 9 Key Competences. The European Commission is currently attempting to reduce the regulation of occupations to increase competition and reduce the barriers to mobility of labour (see for example the address to the Single Market Forum on Reforming Regulation of Professions (18/5/2016) by Elżbieta Bieńkowska, Commissioner for Internal Market, Industry, Entrepreneurship & SMEs).

As assessment can no longer rely on continuous informal assessment by the teacher, the process of assessment has become separated from teaching. The range of assessment methods has been extended to encompass skills and attitudes/values, and to reduce the costs of assessment. Multiple choice questionnaires has provided economies of scale to the assessment of knowledge. However, assessment has started to be increasingly based on the collection of varied evidence, and ensuring that it fully satisfies the defined criteria and embraces a variety of learning paths. This has become increasingly important as lifelong learning becomes the norm, people change occupation and the single European labour market brings together employees from different national educational and employment backgrounds.

These trends have been reinforced by the European Qualification Framework requirement for a National Qualification Framework, and a commitment to set up systems for the validation of informal and non-formal learning (the recognition of prior learning). International standard ISO 17024 was created in 2003 to enable awarding bodies to be certified as achieving a high standard. The worlds of higher education (HE) and vocational education and training (VET) tend to be separated into different institutions with HE having superior status (especially in the Anglo-Saxon countries, but scarcely apparent in Germany). They often fall under different ministries (education and employment) and have different qualification systems. It is common for them to remain separated even when a National Qualification Framework attempts to bridge the gap.
In order to bring together the diversity of different credentialing practices so that employers can understand the huge variety of educational and vocational qualifications that exist across Europe, the European Commission has created a number of tools of varying utility, such as:

- Europass instruments:
  - the Diploma Supplement describing the results for a university degree
  - the Certificate Supplement describing the components of a vocational qualification
  - the Language Passport, describing competence in a particular language
  - Europass curriculum vitae – a standard format for CVs
  - Europass mobility document recording the Learning Outcomes achieved in a brief work experience placement in another country.

- EQF – a reference against which to measure the degree of intellectual challenge of a qualification, as part of a system of National Qualification Frameworks.

- EQAVET (European quality assurance in vocational education and training) – setting out the European Quality Assurance Reference Framework

- ECTS (European Credit Transfer and Accumulation System) and ECVET (the European Credit System for Vocational Education & Training)

- ESCO (European Skills, Competences, Qualifications and Occupations) an occupational taxonomy for use with occupational standards, vocational competence and qualifications, statistics

Additionally, the Lisbon Convention on the Recognition of Qualifications concerning Higher Education in the European Region is an international convention of the Council of Europe with UNESCO. It states that degrees and periods of study must be regarded as equivalent unless a substantial difference can be demonstrated, making it easier to transfer credit and avoid repeating formal education. There is also a growing number of international awarding bodies and international qualifications: the European Computer Driving Licence (ECDL), the International Baccalaureate, qualifications for ships’ officers, aeroplane pilot and vehicle driver licences, etc.

Gaining employment and progressing in a career are some of the most significant forms of recognition and reward for a person’s learning and performance. However, in most cases a job is not synonymous with a credential. As Buon & Compton (1990) point out, a direct correlation between credentials and future job success can be rarely assumed. In view of the credential inflation characterised by the decline of the social distinctiveness of a formal degree and its value on the occupational marketplace, it becomes important to rethink credentialing practices:

“At the turn of the 19th century, when high school degrees were held by less than 10% percent of the population, they were badges of substantial middle class respectability, and until mid-century they conferred access even to managerial level jobs.” (Brown, 2001, 228).

Below we outline Open Badges in their function as digital credentials and discuss how Open Badges may help transform current credentialing practices providing substantive value to the holder of a credential and to the occupational marketplace.
2.3 Open Badges as Digital Credentials

The Internet and related digital media have created unprecedented opportunities to connect, communicate and learn, in traditional formal settings but also in non-traditional, both non-formal and informal environments. In the digital age learners wanting to reach personal, academic, and career goals, need new opportunities to aggregate learning achievements and associated evidence of learning from multiple sources in portable, digital, interoperable, and verifiable ways (Badge Alliance Endorsement Working Group, 2014). Open digital badges as Web-enabled tokens of learning and accomplishment (Casilli & Knight 2012), enable the representation, verification, and sharing of skills and knowledge acquired in a classroom, on the job, in the community, or in any digital and non-digital learning environment (Badge Alliance Endorsement Working Group, 2014).

Open Badges may be used to support (a) recognising skills, achievements, experiences, practices, memberships, engagement on individual, peer and community levels, (b) assessing learning including summative, formative and transformative assessment, (c) motivating learning and providing orientation, (d) studying learning based on the information contained in a badge such as what the badge represents, criteria, evidence, issuers, earners (cf. Figure 1).

![Figure 1: Open Badge functions](http://openbadges.tumblr.com/page/8)

Open Badges in their function of “recognising learning” can be used along the lines of conventional educational credentials such as certificates, transcripts of records or letters of recommendation. When used to “recognise learning” Open Badges may be used as parts of or as an equivalent to a curriculum vitae or employment record. At the same time, Open Badges can also support other, non-traditional forms of credentialing, such as peer-reviewed credentials, community-based credentials and even self-awarded credentials. As digital tokens, Open Badges can be used to represent either non-digital (often paper-based) or electronic credentials in a new digital format.

---

Open Badges provide a chance to **rethink** traditional ways of thinking about credentials, posing such questions as:

- **What should be recognised as learning in the digital age, in which learning takes place anywhere, anytime, on any device and in connection to anyone on the planet?**

- **Which methods are appropriate to recognise and make learning visible in times of increased personal responsibility for career development (employability) and an ever increasing flexibility of work in terms of time, location and scope (mobility)?**

- **What type of a social and technical system and tools for assessing learning, issuing, receiving and sharing credentials in different contexts/environments can solve the problems of the current credentialing systems (e.g. a gap between what was taught and what was really learned, the gap between what is known and what can be reliably performed, verification of the accuracy of a credential, searchability of credentials)?**

Open Badges offer new opportunities of credentialing by creating ways to recognise more diverse learning pathways leading to new opportunities for both learners and educational organisations:

“How, then, do we go about building on this potential? How do we design relevant, innovative, and transformative badge systems that connect people’s multiple spheres of learning and link them to new opportunities?” (Grant, 2014).

Open Badges can be used to represent such multiple shares of learning. Since Open Badges are community-driven and not controlled top-down by credentialing authorities, their uses are unlimited and can be adjusted for any context and target group to create value wherever it is needed. Open Badges so far has been used to represent (1) achievements (demonstration of achievements), (2) competencies (demonstration of knowledge, skills, competence), (3) potentials (indicators of future performance), (4) participation (evidence of participation, e.g. events), (5) membership (represents membership, e.g. club), (6) commitment (attitudes, values, beliefs), (7) encouragement (good work stamps) (Buchem, 2015a). However, these represent only some of the key trends observed so far in using Open Badges. The current uses of Open Badges are not meant to serve as standards or pose limits on what learning processes and outcomes Open Badges could represent in the future.

### 2.4 Technologies for Open Badges as digital credentials

In this section we provide a short overview of the key technologies for Open Badges, i.e. Open Badge Metadata and Open Badge Infrastructure, as these help to understand what Open Badges bring into the discussion about transforming current credentialing practices.

#### 2.4.1 Open Badges Metadata

One of the key technologies of Open Badges is metadata, i.e. "data that provides information about other data” (Wikipedia). Grant (2014) explains the metadata of Open Badges as follows:

“Every open digital badge contains metadata, or “data about the data.” Since metadata is not a common term, analogies are useful here. A digital camera generates metadata associated with each photo that describes the camera, the settings, the date, and perhaps the location where the image was taken. A library card catalog contains cards with metadata about a book’s author, the publication date, and the location of the item in the library. An open digital badge contains metadata about the learner, the badge description, the issuing organization, the date it was issued, criteria to earn the badge, the web address..."
that links to “evidence,” and other information that make it compatible with the OBI [Open Badges Infrastructure]. These metadata include a set of standards that make it possible for other systems to process and recognize the badge, allowing it to travel outside the platform in which it was earned and issued.”

Given the metadata-based set of standards, Open Badges offer much more than the usual paper-based or even electronic versions of a credential. Representing credentials with digital Open Badges makes use of diverse types of metadata. The required badge assertion metadata fields which are necessary to make a digital badge compliant with the Open Badge Infrastructure (cf. section 2.3) are: (1) Recipient, (2) Issue Date, (3) Badge Title or Name, (4) Image URL, (5) Description, (6) Criteria, and (7) Issuer. The optional metadata fields include (8) Expiration Date and (9) Evidence URL (Grant, 2014). The use of these different types of metadata fields allows for an information-rich representation of any credential (cf. Figure 2).

![Moodle Berry](image)

**Figure 2.** An example of an Open Badge with metadata fields

Turning a paper-based credential to a digital form with Open Badges is different than creating an electronic document, such as PDF: “A digital badge is a representation of an accomplishment, interest or affiliation that is visual, available online, and contains metadata including links that help explain the context, meaning, process and result of an activity” (Gibson et al. 2013). Buchem (2016b) argues that the term “digital badges” conveys a different meaning than the term “e-badges” reflecting the evolution of media use from “electronic” to “digital”:...
“While the focus of “electronic media” has been on using technologies to support existing forms of activity (e.g. e-mail), “digital media” focus on enabling new forms of activity, usually by converging a diversity of media (e.g. digital mailroom). This conceptual shift in media use has been already taken up in context of learning (e.g. a shift from e-learning to digital learning), business (e.g. a shift from e-business to digital business) and information technology, (e.g. a shift from e-signature to digital signature). The example of a digital signature may well explain the current shift in media use. A digital signature in contrast to an electronic signature, codes signer’s digital identity as a footprint into the document. A similar mechanism has been applied to badges. The “badge baking” process of Open Badges embeds assertion data to a badge image, thus enabling new forms of validation.”

From this perspective, Open Badges as examples of metadata-based digital badges have the potential to promote new forms of credentialing practice instead of operating as mere replicas of traditional practice (Buchem, 2016b). Similar to a digital signature, Open Badges contain rich information allowing you to verify the source and other information necessary to verify or validate a specific badge. The Open Badges Technical Specification, which technically describes the Open Badge standard, provides a standard for packaging information about accomplishments, embedding it into portable image files (PNG), and establishing an infrastructure for its validation. This specification includes term definitions for representations of data in Open Badges.

One of the most important technical elements of Open Badges is the Assertion:

“The assertion is a fundamental building block in the badging ecosystem.”

The assertion presents information contained in the awarded badge:

“First, badges are defined, and metadata about the issuer organization and badge class are created. Next, when badges are earned, assertion metadata are created.” (Grant, 2014)

The assertion describes three key aspects of an Open Badge: (1) Who a badge was awarded to; (2) What that badge represents, (3) Who issued the badge. Issuers of badges create an assertion for each badge awarded to an earner (e.g. student). Viewers of badges (e.g. peers, employers) can verify the badge based on the data contained in the assertion and displayed from an earner’s public collections of Open Badges. Each assertion has a unique ID, for example http://example.org/badges/assertions/50c3c51d2726 (Grant, 2014). Open Badge Assertion properties can be viewed on Github. The Open Badge specification is available here: http://specification.openbadges.org Additionally, badge assertions can be hosted at the location where the badge is produced, or secured with digital signatures or authentication codes (“baked”). For more information about the technology aspects and key data structures of Open Badges please visit the technical specification of Mozilla Open Badges on github.

---

2 https://openbadgespec.org/  
3 https://github.com/mozilla/openbadges-backpack/wiki/Assertion-Information-for-the-Uninitiated  
4 https://github.com/mozilla/openbadges-specification/blob/master/Assertion/latest.md  
5 https://github.com/mozilla/openbadges-specification/blob/master/Assertion/latest.md

2.4.2 Open Badges Infrastructure

The Open Badges Infrastructure (OBI) is the underlying technology that supports badge issuing, collection, display and enables developing portable digital badges and tools across the web. This means that badges must contain code that is compatible or aligned with OBI technical specifications if they are to be displayed outside a proprietary or closed badge platform:

“A badge can be digital by virtue of being online, but it is not open or interoperable unless it contains standard bits of information that align to the technical specifications of the OBI.” (Grant, 2014)

The Open Badges Infrastructure (OBI) is an Open Source solution and is published under the Mozilla Public Open Licence. The OBI is composed of (a) the Open Badge specification, and the Badge Backpack. The Badge Backpack is an authorised data repository and service allowing badge earners to collect and manage the badges they earned from different issuers/environments. The mechanism for using the Badge Backpack is fully user-centered. First, the learner has to accept the badge that was issued to him/her, i.e. the badge has to be “claimed” first. The learner may claim (accept) the badge by clicking the badge URL (ID) which was sent per email or by “push” so it enters their Mozilla Badge Backpack. A badge once stored in the Backpack can be managed (e.g. setting privacy levels, grouping badges) and displayed in an OBI-compatible system on the web (e.g. Wordpress, Drupal). The Backpack allows the user to share links to public collections of badges. For example, a learner may create a collection of badges for a specific event or a collection of badges issued by a specific organisation (cf. Figure 3).

Figure 3. An example of a collection of Open Badges in the Backpack.

---

6 [https://github.com/mozilla/openbadges-backpack/wiki/Infrastructure-Requirements](https://github.com/mozilla/openbadges-backpack/wiki/Infrastructure-Requirements)
8 [http://openbadges.org/legal_faq/](http://openbadges.org/legal_faq/)
Once an Open Badge is displayed publicly in the Mozilla Backpack, anyone can view it by clicking on the picture (PNG) to access the information included in the Assertion of the badge. In this way viewers can understand the content and meaning of the badge beyond the picture. Once clicked, the badge will display a link to the criteria page and information that describes the badge, the badge earner, and the badge issuing organisation (Grant, 2014).

Beside the Badge Backpack provided as an authorised service by Mozilla, there are other applications that support collecting, managing and displaying Open Badges. A selection of open Badge applications and how they are used is summarised in Table 1 below.

Table 1: Open Badge Applications

<table>
<thead>
<tr>
<th>Open Badge Application name and URL</th>
<th>Features and functions of the application</th>
</tr>
</thead>
</table>
| Badge Backpack
https://backpack.openbadges.org/backpack | Badge Backpack is a repository for collecting and displaying badges from a variety of sources and is a user management interface. |
| Credly
https://credly.com | Credly is a platform for verifying, sharing and managing digital badges and credentials. |
| Open Badge Academy
https://www.openbadgeacademy.com | Open Badge Academy is a platform offering new opportunities to discover, evidence and gain endorsement for the in-demand skills needed to transition into employment. |
| Open Badge Passport
https://openbadgepassport.com | Open Badge Passport is a service for receiving, saving and organising Open Badges and sharing them on social media (LinkedIn, Twitter, Facebook). |
| Open Badge Factory
https://openbadgefactory.com | Open Badge Factory is an Open Badge management system providing tools for organisations wanting to implement and manage a badge system for building reputation over time. |
| BadgeList
http://www.badgelist.com | BadgeList is a service for creating web-based credentials which allows subscribers to design badges, collect evidence, award and display badges. |
| Badgr
http://info.badgr.io | Badgr is an open-source badge issuing, management, and user achievement tracking platform. |
| Bestr
https://bestr.it | Bestr is a platform for earning Open Badges representing skills acquired in formal, non formal and informal settings, connecting companies, learners and training services. |
2.5 Transforming Credentialing with Open Badges

The unique features of Open Badges as described in the sections above (including diverse layers of metadata and interoperability allowing for annotating each single badge with rich information, accumulating badges earned from different issuers in one place, and displaying badges on diverse websites), provide a number of opportunities for transforming credentialing using Open Badges. Below we highlight three ways in which Open Badges can add value to credentialing:

(1) Creating value by including evidence in the credential

Unlike traditional credentials, Open Badges:

“allow issuers to include specific claims about an earner’s experience, skills, or competencies and to associate them with detailed evidence that supports those claims.” (Casilli & Hickey, 2016)

This is possible do the Open Badge technologies presented in the section before, which allow the earner of a badge to include multimedia evidence to support the claim of “having” a skill or “demonstrating” a performance as represented by an Open Badge.

(2) Creating value by thriving on contextualised, public credibility

It has been notes that most degrees nowadays serve as “bureaucratic markers channeling access to the point at which they are cashed in” (Brown, 2001, 229). Following the principles of public credibility, Open Badges may be used to provide substantive value by (a) directing, motivating and capturing learning; (b) recognising, documenting and communicating achievements; and (c) building reputation and communities:

“(…) are rooted in the concept of contextualized and public credibility; earners are encouraged to share their badges over social networks, e-mail, and websites, and to accumulate, annotate, and display them from digital “backpacks” (repositories for earned open digital badges) that are originated by and remain in the earner’s control.” (Casilli & Hickey, 2016)

(3) Creating value by enhancing diversity in new networks of governance

Moreover, Open Badges is a community of different stakeholders promoting and using Open Badges and in this sense it is an open movement at the intersection of both open source and open education movements (Buchem, 2016), creating new opportunities for credentialing practices in an interdisciplinary, connected and global network. Open Badges as a network of stakeholders can be considered as a new “network of governance”, bringing new stakeholders into the design, issuance and validation of credentials:

“These networks include individuals, organizations, and agencies from philanthropy, business, quasi-governmental bodies, and non-governmental agencies. The new networks constitute new policy communities, and shift governance away from a unitary state.” (Olneck, 2014).

A further selection of Open Badges characteristics and the resulting new credentialing practices is summarised in Table 2.
Table 2: Selected characteristics of Open Badges and resulting new credentialing practices

<table>
<thead>
<tr>
<th>Open Badges characteristics</th>
<th>New credentialing practices</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Open Badges as Technology</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Assertion</strong></td>
<td>Credentials can store and carry with them rich information beyond the face value of a name of completed course, program, acquired skills.</td>
</tr>
<tr>
<td><strong>Backpack</strong></td>
<td>Credentials can be stored in one place and managed by the learner. The learner can display the credentials in individual constellations and on selected websites.</td>
</tr>
<tr>
<td><strong>Endorsement</strong></td>
<td>Credentials can be endorsed by organisations with the expertise or interest in assessing the quality of a specific badge (e.g. alignment with standards/ criteria), thus enhancing the credibility of a credential as relevant/valuable/valid, e.g. for professional development of career/employment .</td>
</tr>
<tr>
<td><strong>Interoperability</strong></td>
<td>Credentials can be endorsed by organisations with the expertise or interest in assessing the quality of a specific badge (e.g. alignment with standards/ criteria), thus enhancing the credibility of a credential as relevant/valuable/valid, e.g. for professional development of career/employment .</td>
</tr>
<tr>
<td></td>
<td>Credentials can shared among issuers and earners and across both groups. Earners can collect credentials from different issuers and display them on diverse OBI compatible websites. A number of bading platforms enables to set up Open Badges Academies in which Open Badges may be earned by academy members but also claimed by any learner fulfilling the criteria. See for example: <a href="https://www.openbadgeacademy.com/academies">https://www.openbadgeacademy.com/academies</a>. Open Badges from such academies can be easily exported to a central user hub (e.g. Badge Backpack) and displayed on other websites due to the interoperability standard.</td>
</tr>
<tr>
<td><strong>Open Badges as Community</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Global network</strong></td>
<td>Credentials can be viewed by global audiences and their value is created by social community structures and interactions.</td>
</tr>
<tr>
<td><strong>Cross-disciplinary network</strong></td>
<td>Credentials may be used to establish new meaningful categories of what can be recognised as a merit worth recognising. These new categories can be established across disciplines, disrupting traditional boundaries and status distinctions.</td>
</tr>
</tbody>
</table>

The characteristics of Open Badges listed above also open an opportunity to study credentialing processes, e.g. exercising power in the field of credentials, establishing quality and value of credentials, establishment and deregulation of credentialing systems, emergence of new categories of what a credential may represent and who may be legitimate to issue, earn and endorse a credential (cf. Olneck, 2014).
3. Relevant Policy Areas and Approaches

After establishing a common ground for the discussion on Open Badges, this section focuses on relevant policy areas and current policy approaches which may be helpful for establishing Open Badges at policy levels in Europe. The topics covered in this section are:

- Rationale for establishing Open Badges at policy levels (section 3.1)
- Current policy approaches to establishing Open Badges (section 3.2)
- Relevant policy areas and stakeholders (section 3.3)

3.1 Rationale for Establishing Open Badges at Policy Levels

Although the history of Open Badges is still relatively short (the open badge standard was published only recently in 2012), Open Badges have already gained much attention as an emerging form of credentialing with the potential of transforming or even transcending conventional credentialing and assessment (Casilli & Hickey, 2016), enhancing competency-based and competency-focused credentialing (IMS, 2016), especially in the context of Open Education including open online courses such as MOOCs (Witthaus et al., 2016), as well as recognising and communicating critical skills for employability and career development and the social inclusion of disadvantaged groups such as migrants and refugees (Buchem, 2016b).

One of the first publications on Open Badges in 2011, a foundational piece on assessment and badges for open, informal and social learning environments by Peer 2 Peer University and The Mozilla Foundation establishes the rationale for Open Badges in the following way:

“(…) in today's world learning can look very different than traditionally imagined. Learning is not just ‘seat time’ within schools, but extends across multiple contexts, experiences and interactions. It is no longer just an isolated or individual concept, but is inclusive, social, informal, participatory, creative and lifelong. And it is not sufficient to think of learning simply as consumption, but instead learners are active participants and producers in an interest-driven learning process. (…) And across these learning environments, learners are offered multiple pathways to gain competencies and refine skills through open, remixable and transparent tools, resources and processes.” (P2P, 2016).

The review of current literature and discussion on Open Badges as forms of open digital credentials (cf. Buchem, 2016b), indicates that policy attention and response is needed to support establishing Open Badges as digital credentialing instruments for 21st century learning and competencies. The low cost, interoperability and scalability of Open Badges make them applicable to a wide range of contexts and for a wide range of users.
The Open Badge Network calls for policies that support:

- **Establishing Open Badges for recognition of lifelong learning** in view of employment, social inclusion and further learning, also considering the shortcomings of traditional credentialing systems: such as failing to **capture and recognise the full range of learning outcomes of lifelong and life-wide learning**. Recognition and validation of non-formal and informal learning is one of the key topics in the European Agenda for modernising (higher) education (Cedefop, 2015). The recommendation of the European Council 2012 calls for European cooperation in validation of non-formal and informal learning and national arrangements “allowing individuals to value and make visible the outcomes of learning at work, at home, during leisure time and in voluntary activities” (Cedefop, 2015). At the end of 2015 Cedefop published an updated set of “European Guidelines for Validating Non-formal and Informal Learning” which recognises badges as examples of fulfilling some of the requirements for validation of OERs (the need for both internal credit and for standards/reference points to be explained and documented).

- **Establishing Open Badges for validation of Open Education** such as MOOCs and other forms of open courses and open educational practices. The European Commission study “Validation of non-formal MOOC-based learning: An Analysis of Assessment and Recognition Practices in Europe (OpenCred)” analysed current practices for the assessment and recognition of open learning via MOOCs and concluded that **recognition of open learning is a key issue that needs to be dealt with in view of the continuing rise in the offer of MOOCs** and other forms of open education (Witthaus et al., 2016). For example, learning outcomes are credentialed through Open Badges within the Canvas Learning Management System, so called “Canvabadges”.9 Another example is the Institute of Informatics at the University of Tallinn in Estonia offering an open course on preparing digital training materials, in which Open Badges are issued by linking course assignments to learning outcomes10. The Open University in the UK has also developed a suite of badges for informal and formal students that align with employability and the OU’s existing skills-related open educational resources (Law et al., 2015). Another examples is the Spanish Open University, UNED which awards Open Badges for participation and progression in MOOCs (e.g. having achieved specific results, such as finishing an activity in a course, participating a certain number of times in the community). These and other examples show that there is a need for policy attention related to the new forms of digital credentialing such taking place in the context of Open Education including MOOCS.

- **Establishing Open Badges for better socio-economic outcomes**, enhancing equal opportunity in both education and employment. Open Badges used for the recognition of key competencies provide a means for bringing learning outcomes and job requirements closer together. In view of changing demands for competencies and employers seeking concise and precise information about competencies, **Open Badges “can provide the bridge between academic and business or market discourse”** (Olneck, 2014, p.22).

Craig (2016) identifies the persistent disconnect between (higher) education and the needs of the labour market as “a data problem” and envisages “competency marketplaces”

---

9 [https://www.canvabadges.org](https://www.canvabadges.org)
bringing learners and employers together. Open Badges as digital micro-credentials based on occupational standards, could help by matching student competency data with job skill requirements. Provided the criteria specified in the badge link to labour market requirements, Open Badges help learners understand what is required for a job and at the same time help employers identify learners who fulfill the requirements and “are on track, or on a trajectory to match in the future” (Craig, 2016). Observations and research from projects such as Credit Points and BeuthBonus at Beuth University of Applied Sciences Berlin\(^1\) funded by the German Ministry of Education and Research, the Ministry of Labour and Social Affairs, the Federal Agency of Labour and ESF, have already laid out the potential of Open Badges for improving academic and career opportunities of migrant academics including refugees, especially by providing a conceptual bridge between competencies acquired in foreign education and employment systems and the requirements of local labour markets (cf. Buchem, 2015b; Witthaus et al., 2016). These and related uses of Open Badges link directly to the new Skills Agenda for Europe, which in turn contributes to the European Commission's first political priority, "A New Boost for Jobs, Growth and Investment."\(^2\)

- **Establishing Open Badges for up-skilling the low-skilled** by providing opportunities for the validation and recognition of the skills of low-skilled adults. The Youth Guarantee together with the Long Term Unemployed Recommendations and the Skills Guarantee (EC, 2016b) aim at reducing the high number of low-skilled adults in Europe. Based on research showing that “The skills levels of the working age population are strongly linked to their success in the labour market and engagement and participation in society”, “low skilled people are exposed to higher risks of job loss”, and “the demand for low skilled workers will decrease by 2025” (EC, 2016b), there is an urgent need to increase the level of skills of the European workforce “to prevent individuals becoming unemployed, reducing the risk of poverty and social exclusion and increasing engagement in society” (EC, 2016b). The Skills Guarantee tackles a number of structural problems preventing up-skilling, one of them related to the **limited opportunities for skills audit and validation** outside the formal education system, which prevent adults from engaging in further training. From this perspective, Open Badges could become an important element in the development of validation and skills audit systems within programmes or frameworks for the provision of basic skills to adults in the EU countries. The potential of Open Badges in this area has already been recognised in the USA, where President Bill Clinton’s initiative - 10 Million Better Futures\(^3\) - has been established to help 1 million students and 1 million U.S. workers access opportunities through Open Badges.

---
\(^1\) [http://goo.gl/zhN6DQ](http://goo.gl/zhN6DQ)
\(^3\) [http://10mbetterfutures.org/](http://10mbetterfutures.org/)
A number of employers and organisations around the world issue Open Badges which can be earned online and used by learners to validate their competencies and skills, upgrade or upskill their professional profiles and in this way improve their socio-economic situation. Some of the most prominent examples of Open Badge Issuers from the industry include IBM\textsuperscript{14}, Oracle\textsuperscript{15}, Adobe\textsuperscript{16}, O2\textsuperscript{17}, NHS\textsuperscript{18}, City & Guilds\textsuperscript{19}, SCRUM Open Assessment\textsuperscript{20}, ISACA\textsuperscript{21}. For more initiatives on Open Badges please visit Badge the World - an interactive platform and map capturing Open Badge initiatives and projects around the world\textsuperscript{22}.

To sum up, establishing Open Badges as an instrument for the \textbf{recognition and credentialing of learning in Europe} may contribute to:

- Improving competency-based credentialing linking education and employment in Europe
- Enhancing employability and socio-economic situation of European citizens
- Supporting vulnerable groups and unlocking opportunities for education and employment

Following Erin Knight, Mozilla’s Senior Director of Learning and Badges:

\begin{quote}
\textit{“The learning and employment landscape is changing drastically in today’s digital world and it’s widely apparent that we need credentials that can support the current demands. Badges are credentials for the 21st Century digital age, which can be used to represent a more complete and verified picture of what people know and can do, and can connect them to better jobs and advancement. Employers and institutions will be able to go beyond abstract credentials or self-reported resumes, to more credible information on candidates and find better matches, unlocking better professional futures for all involved.”}\textsuperscript{23}
\end{quote}

It is important to emphasise at this stage that establishing Open Badges at policy levels does not aim at replacing conventional credentials and systems but adds a new approach and mechanism for credentialing and recognition of learning outcomes.

\begin{itemize}
\item \textsuperscript{14} http://www.ibm.com/developerworks/middleware/services/badges/
\item \textsuperscript{15} http://education.oracle.com/pls/web_prod-plq-dad/db_pages.getpage?page_id=861
\item \textsuperscript{16} https://www.youracclaim.com/org/adobe
\item \textsuperscript{17} https://www.openbadgeacademy.com/o2digitalskills
\item \textsuperscript{18} https://www.openbadgeacademy.com/NHS
\item \textsuperscript{19} https://www.openbadgeacademy.com/employabilitypractitioner
\item \textsuperscript{20} https://www.scrum.org/Assessments/Open-Assessments
\item \textsuperscript{21} https://www.youracclaim.com/org/isaca
\item \textsuperscript{22} http://www.badgetheworld.org/
\item \textsuperscript{23} http://openbadges.tumblr.com/post/52891233828/huge-news-former-president-bill-clinton-supports
\end{itemize}
Following the discussion on Open Badges in the global community (cf. Knight, 2014; Casilli & Hickey, 2016), the Open Badge Network recommends establishing **Open Badges as instruments for extending the existing credentialing systems with the aim of recognising and credentialing of a wider range of learning outcomes**, especially from informal, non-formal and open learning contexts. Therefore, one of the key recommendations is **not** to place Open Badges into competition with conventional credentials (Olneck, 2014).

In this Discussion Paper we make a distinction between “credentialing”, “recognition” and “validation”, following Witthaus et al. (2016):

- **Credentialing** of learning outcomes is provided though the act of issuing a credential to the learner, usually on the basis of completed assessment.
- **Recognition** of learning outcomes is provided by granting the learner the right to access or progress in educational or employment activities.
- **Validation** of learning aims at examining whether individual learning outcomes meet specific standards and is conducted by an authorised body to confirm against standards.

In this sense, Open Badges may be used for credentialing, recognition and validation of learning outcomes. Witthaus et al. (2016) propose a “traffic light model”, which describes elements of non-formal, open learning assessment using a “traffic light” metaphor (cf. Fig. 4).

**Figure 4**: Open Learning Recognition - the “traffic light model” (Witthaus et al., 2014).

The traffic light model can serve as an orientation for designing Open Badges as credentials in order to ensure a better recognition of Open Badges as digital credentials. In their report, Witthaus et al. (2014, 5) point out that **recognition of learning “is a key aspect of opening up education which supports the transition from non-formal to formal education”**.
3.2 Current Policy Approaches to Establishing Open Badges

The sections above have mentioned to some of the current initiatives aiming at establishing Open Badges at policy levels. In this section we provide an overview of policy approaches, mainly from the USA and in UK, which may be helpful for establishing Open Badges in Europe:


The Badge Alliance Policy Working group is dedicated to tracking, investigating, and reviewing policy that affects the open badges ecology. It has a specific focus on U.S. federal policies that may influence or affect Open Badges. It provides guidance and advice on policy research as well as policy recommendations regarding the development of the Open Badges ecosystem. The group works together to raise awareness of open badges policy and encourage open badges advocacy within a larger social structure and participating in calls for public comment. The group structure includes a chair and a secretary from the Penn Hill Group [24] specialising in policy development and analysis, lobbying and government relations and strategic consulting in public administration and in the public sector. The Policy Working Group also has a Badge Alliance Liaison working closely with the chair and the secretary. The group uses a Google Forum to engage with a community on policy issues related to Open Badges [25].

Recommendations for European policy stakeholders: The Open Badge Network Project is already a step forward towards establishing a network of European stakeholders based on the model of Badge Alliance in the USA. Establishing a European Policy Working Group as part of the Sustainability Plan should include liaising with relevant policy making agencies such as the European Commission (Directorates General of: Employment, Social Affairs & Inclusion [EMPL]; Internal Market, Industry, Entrepreneurship & SMEs [GROWTH]; Education & Culture [EAC]) and OECD. Additionally, Policy Working Groups could be established at national levels, for example linking to current policy activities at ministries of education, higher education, employment and the digital economy. In addition to monitoring, investigating and reviewing policies relevant to digital credentialing and providing policy recommendations, a European Policy Working Group could also carry out consultations in the process of preparation of policy initiatives on European and/or national levels. In order to collect input and views from stakeholders about policies relevant for digital credentialing, a European policy working group could organise and manage meetings exchanges with policy stakeholders, as well as establish a digital platform for dialogue [26].


City & Guild Group in the UK is a charity which has become a global leader in skills credentials, providing services to training providers, employers, and trainees across a variety of sectors to meet the needs of the workplace. The qualifications and apprenticeships of City & Guilds are valued by employers across the world, helping individuals develop their talents and abilities for career progression. In June 2016 the City & Guilds Group announced the creation of a new digital

---

credentialing services business using Open Badges to recognise individuals' skills and talents. The City & Guilds Group has been expanding its digital credentialing activities, e.g. by investing into Credly\textsuperscript{27} (a US-based digital credentialing provider) and the acquisition of Digitalme (a UK-based not-for-profit organisation and a partner in the Open Badge Network) and its sister organisation Makewaves\textsuperscript{28} (a free social learning platform for children and youth to make and share media portfolios, projects and reports).

**Recommendations for European policy stakeholders:** Other commercial awarding bodies (such as the TüV in Germany\textsuperscript{29}) and national qualification agencies (such as DUO in Netherlands), are likely to follow a similar path to expand their expertise and capability in digital credentialing. This approach could and should be adapted at the European level, for example by establishing a working group in one of the Directorates General (EMPL, EAC, GROWTH) and setting up units in Cedefop and the European Training Foundation (ETF) with a commitment to shaping the future of digital recognition and credentialing of skills and competencies. The European Higher Education Area secretariat in Paris should do likewise - it has a membership well beyond the European Union. European digital credentialing initiatives should be linked to promoting the economy including start-ups, making use of Open Badges to boost growth and jobs in Europe, such as the European Startup Act 2020\textsuperscript{30}. A number of successful businesses utilising the Open Badges technology have been built around the world, including Credly (USA), Acclaim (USA), Badge List (USA), Open Badge Factory (Finland) and Bestr (Italy). Using the Open Badges Standard to create new services for public and private sector also contributes to the growth of entrepreneurship.

**3) Mayors for innovation through Digital Badges (USA)**

In 2015 the United States Conference of Mayors passed a resolution supporting the adoption of a digital badging framework in cities\textsuperscript{31}. The United States Conference of Mayors advocates Mozilla Open Badge Infrastructure (OBI) as the technical infrastructure for the creation, storing, issuing and verification of digital badges. One of the key provisions of this resolution is that the Standing Committee on Jobs, Education and the Workforce works towards creating policy that allows for the adoption of a scalable and replicable digital badging framework in support of the National Cities of Learning movement in the USA in cooperation with LRNG\textsuperscript{32}, which is a non-profit social enterprise that works collaboratively with schools, businesses, cities, and community institutions, such as libraries and museums, to redesign learning for the 21st century. The mayors are encouraged to use digital badging and act as facilitators and curators of digital badges to create meaningful digital credentials that are recognised by employers and municipalities across the United States. The resolution points out that four cities (Chicago, Dallas, Pittsburgh and Washington D.C.) have already successfully captured student learning and skills through the use of digital badges and

\textsuperscript{27} https://credly.com/

\textsuperscript{28} https://www.makewav.es/

\textsuperscript{29} http://www.tuv.com/en/corporate


\textsuperscript{31} http://about.lrng.org/wp-content/uploads/2016/06/LRNG_USCM-Resolution-1.pdf

\textsuperscript{32} https://www.lrng.org/
could in this way improve links between school and work, especially for youth but also helping local employers to hire young talents from the local community. In 2015 eight new cities (Columbus, Kansas City (Missouri), Philadelphia, Rochester, San Diego, San Jose, Springfield and West Sacramento) have joined the initial four to create a national community of practice and advance the shared digital badging framework using the LRNG platform. For example, LRNG West Sacramento created a framework that allows young people to intern at City Hall in various departments, allowing learners to explore careers in local government and develop skills for an entry level career in public service. Participants can earn a number of Open Badges issued by the City of West Sacramento (see “Community Development Badge” and “Fire Department Badge” as examples). The resolution mentions that the United States Conference of Mayors supports the use and acceptance of validated digital badges as valid evidence for workforce development and performance measures, for financial aid eligibility and awards, for accelerated opportunities with colleges and employers for young people who demonstrate achievement, talent, and skills, and for a broadened conception of student and school outcomes as accountability is devolved from the federal government to states under the Every Student Succeeds Act: “By encouraging mayors across the country to embrace badges and join the LRNG ecosystem, the U.S. Conference of Mayors is helping prepare all youth for success in the connected age”.

**Recommendations for European policy stakeholders:** This model could be implemented in European countries linking to the UNESCO Global Network of Learning Cities (GNLC) coordinated by the UNESCO Institute for Lifelong Learning and established to further encourage the growth of learning cities and accelerate the practice of lifelong learning in the world’s metropolitan areas: “The GNLC is intended to help cities create a better future for their citizens and the planet by transforming themselves into learning cities.” A European strategy for a policy promoting lifelong learning in cities and advocating Open Badges as part of the equation could build on the results of projects which focus on the regional dimension of learning such as EUROlocal, by reinforcing the EC policy on lifelong learning regions. Another link would be the Learning Cities Network. Additionally, a European Learning City strategy advocating Open Badges as a means for socio-economic improvement could add to the European Innovation Partnership on Smart Cities and Communities (EIP-SCC), especially in the areas such as “Open Data” and “Policy and Regulations” to improve urban life for EU citizens. The Committee of the Regions could be involved in monitoring the involvement of local and regional authorities in the implementation of a relevant EU strategy for policy.

---

33 [https://www.lrng.org/west-sacramento](https://www.lrng.org/west-sacramento)
34 [https://goo.gl/CQrEaa](https://goo.gl/CQrEaa)
35 [https://goo.gl/wd1yJK](https://goo.gl/wd1yJK)
36 [https://goo.gl/Bp6xqN](https://goo.gl/Bp6xqN)
37 [http://learningcities.uil.unesco.org](http://learningcities.uil.unesco.org)
38 [http://eurolocal.info](http://eurolocal.info)
39 [http://lcn.pascalobservatory.org](http://lcn.pascalobservatory.org)
41 [http://cor.europa.eu/Pages/welcome.html](http://cor.europa.eu/Pages/welcome.html)
In 2013 Bill Clinton announced a project for the use of Open Badges as online credentials that employers or universities can use in hiring, admissions, promotions or awarding credit: “At the Clinton Global Initiative America meeting in Chicago Thursday, DePaul University and the Information Technology Industry Council pledged to incorporate badges into their hiring, admissions or credentialing.” The Clinton Project works with Mozilla and the MacArthur Foundation: “The collective has committed to scaling the program to assist 1 million students and 1 million workers by 2016. DePaul University in Chicago has already begun to accept badges as college credit.”

The Commitment to Action of the Clinton Global Initiative emphasises the transformative potential of Open Badges: “Over the three years of this commitment, these new badging opportunities will re-imagine how employers and educational institutions assess and recognise what a person knows and can do, creating new paths to college and career advancement for one million students and one million workers.” One of the specific commitments is related to accelerating the training of 25,000 welders across the United States by developing augmented reality training modules for welding procedures for key industries, such as shipbuilding, heavy equipment, oil and gas, and automotive and aerospace, providing a ‘train the trainer’ curriculum, and developing a digital badge for each training module. By working with partner organisations, such as the American Welding Society, the project wants to ensure that the digital badges are recognised as industry certifications.

**Recommendations for European policy stakeholders:** This type of policy approach could be incorporated at the supranational level of the European Union, for example by providing the commitment of the European Commissioner for Digital Economy and Society and his Directorate General for Communications Networks, Content and Technology (DG CONNECT) and linking to such policy frameworks as Recognition of Skills and Qualifications and Free Movement of Professionals.

**3.3 Relevant Policy Stakeholders**

Following the description of current policy approaches to establishing Open Badges in the USA and UK and derived recommendations for adaption of these approaches by European policy stakeholders in section 3.2, we now go on to provide a list of stakeholders who should be involved in establishing Open Badges at policy levels in Europe. The list of stakeholders in ordered by the area of competency (education, employment) and the area of influence (regional, national, supranational). The list presented below should serve as a point for reference for identifying key policy stakeholders to be approached in the next step of policy recommendations in the Open Badge Network project, i.e. White Paper (O5-A2).

---

42 [http://goo.gl/QXGcKD](http://goo.gl/QXGcKD)
43 [https://goo.gl/dsGP4t](https://goo.gl/dsGP4t)
44 [https://goo.gl/BNQ5sM](https://goo.gl/BNQ5sM)
45 [https://goo.gl/EhW1YW](https://goo.gl/EhW1YW)
48 [http://www.openbadgenetwork.com/outputs/policy-levels](http://www.openbadgenetwork.com/outputs/policy-levels)
The stakeholders listed at the national level below pertain the countries represented by project partners in the project Open Badge Network, i.e. Germany, Italy, Netherlands, Poland, UK. Where possible we added examples from other European countries. This list will be extended in O5-A2 to represent all EU member states.

(1) Relevant stakeholders at the global, overarching level:
- OECD: http://www.oecd.org/education/
- UNESCO Institute for Lifelong Learning: http://www.uil.unesco.org/

(2) Educational stakeholders at the European (supranational) level
- Open Education Europa: http://www.openeducationeurope.eu
- ESCO European Skills, Competences Qualifications and Occupations: https://ec.europa.eu/esco/portal/home
- EC DG Education, Youth, Culture and Sport: http://ec.europa.eu/social/home.jsp?langId=en
- EC DG Communications Networks, Content and Technology
- EC DG Internal Market, Industry, Entrepreneurship & SMEs
- Cedefop (European Centre for the Development of Vocational Training): http://www.cedefop.europa.eu
- European Training Foundation (ETF): http://www.ETF.europa.eu
- The Higher Education Policy Institute (HEPI): http://www.hepi.ac.uk/
- Education Policy Analysis: http://epaa.asu.edu/ojs/
- Center for European Policy Studies: https://www.ceps.eu/
- European Higher Education Area (EHEA) and the Bologna Process: http://www.ehea.info
- EPALE: Electronic Platform for Adult Learning in Europe: http://ec.europa.eu/epale/
- EACEA: http://eacea.ec.europa.eu
- EURYDICE: https://webgate.ec.europa.eu
- Validation of Informal and Non-Formal Learning

EHEA: http://www.ehea.info/

CEV - European Volunteering Centre http://www.citizensforeurope.eu/organisation/european-volunteer-centre


Euroguidance Network: http://euroguidance.eu

(3) Educational stakeholders at the national level

Germany

- German Academic Exchange Service (DAAD) https://www.daad.de/en/

Netherlands

- OCW (Ministry of Education): http://www.minocw.nl/
- MBO-Raad: http://www.mboraad.nl/
- Vereniging Hogescholen: http://www.vereniginghogescholen.nl/
- VSNU: http://www.vsnu.nl/

United Kingdom

- Department for Business Innovation & Skills (Government Dept for Economic Growth): www.gov.uk/government/organisations/department-for-business-innovation-skills
- Federation for Industry Sector Skills and Standards (represents the Sector Skills Councils in the UK): fissss.org/
- The British Council www.britishcouncil.org/
- UKCES: www.ukces.org.uk
- Credit & Qualifications Framework for Wales (CQFW): www.cqfw.net
- Northern Ireland: Council for the Curriculum, Examinations and Assessment (CCEA): www.ccea.org.uk
- The Office of Qualifications and Examinations Regulation (Ofqual): ofqual.gov.uk
- Education Funding Agency (EFA): www.gov.uk/government/organisations/education-funding-agency
- Skills Funding Agency (SFA): www.gov.uk/government/organisations.skills-funding-agency
- Scottish Credit and Qualifications Framework Partnership (SCQFP): scqf.org.uk
- Skills Development Scotland (SDS) www.skillsdevelopmentscotland.co.uk
- National Careers Service: nationalcareersservice.direct.gov.uk

**Poland**
- National Centre for Supporting Vocational and Continuing Education (KOWEZiU) http://www.koweziu.edu.pl/
- Ministry of National Education, Department of Vocational and Continuing Education https://bip.men.gov.pl
- The Educational Research Institute http://www.ibe.edu.pl/
- Main Council of Science and Higher Education http://www.rgnisw.nauka.gov.pl/
- Voluntary Labour Corps http://www.ohp.pl/
- Foundation for the Development of Educational System, National Erasmus Plus Agency www.frse.org.pl

**Italy**
- Ministry of Education, University and Research http://www.istruzione.it/
- Ministry of Labor and Social Policies http://www.lavoro.gov.it/AreaLavoro/Pages/default.aspx
- Institute for the Development of Vocational Training of Workers http://www.isfol.it/en
- Conference of Regions and Provinces http://www.regioni.it/
- National Institute of Documentation for Innovation and Educational Research (INDIRE) http://www.indire.it/
- Department of Youth and National Civil Service of the Council of Ministers Presidency http://www.gioventu.gov.it/
- National Agency for Youth (ANG) http://www.agenziagiovani.it/

**Greece**

(4) Employment-related stakeholders at the European (supranational) level
- EC Employment, Social Affairs and Inclusion: http://ec.europa.eu/social/home.jsp?langId=en
- International Labour Organisation http://www.ilo.org/
- EC, Directorate-General for Employment, Social Affairs and Equal Opportunities
- Migration policy group: http://www.migpolgroup.com/
- Cedefop http://www.cedefop.europa.eu/
Youth in Action / Eurodesk [https://eurodesk.eu](https://eurodesk.eu)


(5) Employment-related stakeholders at the national level

**Germany**
- The Federal Employment Agency: [https://www.arbeitsagentur.de/web/content/EN/index.htm](https://www.arbeitsagentur.de/web/content/EN/index.htm)
- The Confederation of German Trade Unions: [http://www.dgb.de](http://www.dgb.de)
- The Education and Science Workers’ Union: [http://www.gew.de](http://www.gew.de)
- The Free Workers' Union: [https://www.fau.org](https://www.fau.org)

**Netherlands**
- UWV (runs EURES): [https://www.werk.nl/werk_nl/eures](https://www.werk.nl/werk_nl/eures)
- MKB Nederland (Umbrella organisation for SME’s): [http://www.mkb.nl/](http://www.mkb.nl/)
- Vereniging Nederlandse gemeenten (VNG): [https://vng.nl/](https://vng.nl/)
- [Vereniging Nederlandse Organisaties Vrijwilligerswerk (NOV) https://nov.nl/](https://nov.nl/)
- Movisie (knowledge institute around welfare, social inclusion, volunteering sector etc.): [http://www.movisie.nl/](http://www.movisie.nl/)
- Trade Unions: [https://www.fnv.nl](https://www.fnv.nl) [https://www.cnv.nl](https://www.cnv.nl)
- Kennисcentrum EVC: [http://www.kenniscentrumevc.nl/](http://www.kenniscentrumevc.nl/)

**United Kingdom**
- Federation for Industry Sector Skills and Standards (represents the Sector Skills Councils in the UK): [fisss.org](http://www.fisss.org)

**Poland**

Italy
- Ministry of Labor and Social Policies: http://www.lavoro.gov.it/AreaLavoro/Pages/default.aspx
- Institute for the Development of Vocational Training of Workers: http://www.isfol.it/en
- Conference of Regions and Provinces: http://www.regioni.it/
- Obiettivolavoro: http://www.gruppoobiettivolavoro.eu/
- Regions Technostructure for the European Social Fund: http://www.tecnostruttura.it
- Department of European Policies of the Council of Ministers: http://www.politichecomunitarie.it/
- Department of Youth and National Civil Service of the Council of Ministers Presidency: http://www.gioventu.gov.it/
- National Agency for Youth (ANG): http://www.agenziagiovani.it/
- ItaliaLavoro: http://www.italialavoro.it

Croatia
- Croatian Employment Institute: http://www.hzz.hr

Portugal
- The Employment and Vocational Training Institute: https://www.iefp.pt/home

Spain
- Public State Employment Service (SEPE): http://www.sepe.es/

Sweden
- The Public Employment Service/EURES Sweden: http://www.arbetsformedlingen.se

The above list of stakeholders in only a first tentative list of relevant policy makers. The organisations listed above will be provided by the Open Badge Network with this Discussion Paper.

4. Related Policies and Initiatives in Europe

In this section we present three selected policy frameworks which are highly relevant for establishing Open Badges at the European level. The aim of this section is to connect to existing policy frameworks which have already gained substantial attention in Europe and beyond. We start with the recent EU New Skills Agenda in section 4.1 and then discuss one of its principal components, the digital skills agenda, in section 4.2 which provides a straightforward application area for Open Badges in Europe and may be the best first step for piloting establishing Open Badges in European policies. We then move on from the concrete example of digital skills to a broader competency frameworks of the Lifelong Learning policy in Europe in section 4.3, showing how Open Badges may be applied to support diverse competency frameworks for lifelong learning. Finally, we provide a link to a meta level of global Open Education initiatives in section 4.4 and explain why it is crucial to include Open Badges in the global discussions about Open Education.
4.1 New Skills Agenda

The European Commission has launched the New Skills Agenda for Europe. This policy framework aims to make sure that people develop the skills necessary for the jobs of today and tomorrow. This task is essential to boost employability, competitiveness and growth across the EU. The agenda calls on EU countries and stakeholders to improve the quality of skills and their relevance for the labour market. It looks to reduce the number of Europeans lacking adequate reading, writing, numeracy and digital skills. At the same time, it seeks to help highly-qualified young people find work that suits their potential and aspirations, to make it easier for employers to recruit employees with the right profiles and to equip people with the skills and mindset to start their own businesses.

The Commission proposes 10 actions to be taken forward over the next two years:

- A **Skills Guarantee** to help low-skilled adults acquire a minimum level of literacy, numeracy and digital skills and progress towards an upper secondary qualification.
- A review of the **European Qualifications Framework** for a better understanding of qualifications and to make better use of all available skills in the European labour market.
- The "**Digital Skills and Jobs Coalition**" bringing together Member States and education, employment and industry stakeholders to develop a large digital talent pool and ensure that individuals and the labour force in Europe are equipped with adequate digital skills.
- The ‘**Blueprint for Sectoral Cooperation on Skills**’ to improve skills intelligence and address skills shortages in specific economic sectors.

Other actions will be launched later this year and in 2017:

- A "**Skills Profile Tool for Third Country Nationals**" to support early identification and profiling of skills and qualifications of asylum seekers, refugees and other migrants.
- A revision of the **Europass Framework**, offering people better and easier-to-use tools to present their skills and get useful real-time information on skills needs and trends which can help with career and learning choices.
- **Making Vocational Education and Training (VET) a first choice** by enhancing opportunities for VET learners to undertake a work based learning experience and promoting greater visibility of good labour market outcomes of VET.
- A review of the **Recommendation on Key Competences** to help more people acquire the core set of skills necessary to work and live in the 21st century with a special focus on promoting entrepreneurial and innovation-oriented mindsets and skills.
- An initiative **on graduate tracking** to improve information on how graduates progress in the labour market.
- A proposal to further analyse and exchange best practices on effective ways to address brain drain.

The Open Badge Network feels that Open Badges could provide part of the functionality required by the European Commission and play a key role for almost all of the key actions listed above. In the rest of this Discussion Paper (O5-A1), we will cover some of these actions, to be elaborated further in a subsequent White Paper (O5-A2), taking into account readers’ feedback.
4.2 Digital Skills

As stated in the New Skills Agenda, digital skills have become one of the major topic and policy agendas in the discussion around the essentials skills in the digital age, affecting educational and employment opportunities:

"In the near future 90% of jobs will require some level of digital skills." (European Commission, 2016, Skills Guarantee).

“These days, you need digital skills as a basic requirement to get ahead in society as well as in the modern workplace. It is not just about reading and writing any more. (...) There are many young people who use the internet on a daily basis but do not have the full skills needed to convert this interest into an actual job.” (Digital Single Market, 2016)

One of the key objectives of the Digital Single Market strategy is to boost digital skills and learning in Europe. The rationale behind this objective is that a strong digital economy, which is vital for innovation, growth, jobs and European competitiveness, requires new types of skills needed in the economy and society. Learning how to code is an example of a new digital skill demand:

“More and more professions require basic coding skills. Increasingly, that includes programming and basic coding skills. Learning how to code while at school, for example, is a great way to get young people interested in digital careers. But in Europe today, less than half of children are in schools which are highly equipped digitally – and only 20-25% of them are taught by digitally confident teachers. So we have a situation where the number of ICT graduates fell by 13% between 2006 and 2013. Today, 37% of the EU workforce has low digital skills, or none at all.” (Digital Single Market, 2016)

Therefore, from both educational and employment perspectives, there is an urgent need to boost digital skills and learning in Europe through “a broader, more inclusive and pan-European effort” (Digital Single Market, 2016):

“The idea is for all EU countries to create national digital skills coalitions and develop comprehensive national digital skills strategies, with accompanying targets.”

In 2016 the European Commissioner for Employment, Social Affairs, Skills and Labour Mobility launched the New Skills Agenda for Europe, which focuses on improving the quality and relevance of skills formation, making skills and qualifications more visible and comparable, as well as improving skills intelligence and information for better career choices; and the Grand Coalition for Digital Jobs with a focus on digital skills and jobs. The goal is to bring together parties from the public and private sectors in EU countries, including national authorities, education providers, employment services, to develop and expand the pool of European digital talent, providing European citizens with the skills essential for using digital technologies in a working environment (Digital Single Market, 2016).

49 http://ec.europa.eu/priorities/digital-single-market_en

50 https://ec.europa.eu/digital-single-market/skills-jobs

Building a Digital Single Market (DSM) for Europe includes skills forecasting and using big data to analyse the needs of each national market as part of the project:

“Our DSM strategy identifies the need to raise digital skills in all economic sectors and among job seekers to improve their employability – and also to create an inclusive e-society.” (Digital Single Market, 2016)

Below we discuss how Open Badges can support and enhance this pan-European effort of enhancing digital skills of EU citizens both in view of education and employment.

4.1.1 Digital Skills in Education

Digital skills are beginning to be strongly recognised as basic skills, along with literacy and numeracy in all areas of education. The DIGICOMP framework for developing and understanding digital competence in Europe builds on the 2006 European Recommendation on Key Competences, in which the Digital Competence has been acknowledged as one of the 8 key competences for Lifelong Learning by the European Union (Ferrari, 2013):

“Digital Competence can be broadly defined as the confident, critical and creative use of ICT to achieve goals related to work, employability, learning, leisure, inclusion and/or participation in society. Digital competence is a transversal key competence which, as such, enables us to acquire other key competences (e.g. language, mathematics, learning to learn, cultural awareness). It is related to many of the 21st Century skills which should be acquired by all citizens, to ensure their active participation in society and the economy.” (Ferrari, 2013)

The DIGICOMP framework is a result of a project on Digital Competence (2011-2012) by the Information Society Unit at JRC-IPTS on behalf of DG Education and Culture. The areas of digital competence in the DIGICOMP framework encompass (cf. Ferrari, 2013):

1. Information: identify, locate, retrieve, store, organise and analyse digital information, judging its relevance and purpose.

2. Communication: communicate in digital environments, share resources through online tools, link with others and collaborate through digital tools, interact with and participate in communities and networks, cross-cultural awareness.

3. Content-creation: Create and edit new content, integrate and re-elaborate previous knowledge and content; produce creative expressions, media outputs and programming; deal with and apply intellectual property rights and licences.


5. Problem-solving: identify digital needs and resources, make informed decisions as to which are the most appropriate digital tools according to the purpose or need, solve conceptual problems through digital means, creatively use technologies, solve technical problems, update one's own and others' competences.

The DIGICOMP framework with its five dimensions (information, communication, content creation, safety and problem solving) is subdivided into a set of competences. These competences are linked to three proficiency levels: (1) foundation, (2) intermediary, and (3) advanced level. The framework sets out a range of skills and knowledge needed for each of these proficiency levels.
Using Open Badges in context of the DIGICOMP framework has already been successfully implemented as part of the Open Badge Network project.\textsuperscript{52}

The Open Badge Network designed Open Badges for each of the five dimensions of the DIGICOMP framework using the badging system “Open Badge Factory”. Below we provide an example for the first dimension “information processing”:

- **Basic user**, I can look for information online using a search engine. I know not all online information is reliable. I can save or store files or content (e.g. text, pictures, music, videos, web pages) and retrieve them once saved or stored. Apply here: \url{https://openbadgefactory.com/c/earnablebadge/O4YA5NaEXZaK/apply}

- **Independent user**, I can use different search engines to find information. I use some filters when searching (e.g. searching only images, videos, maps). I compare different sources to assess the reliability of the information I find. I classify the information in a methodical way using files and folders to locate these easier. I do backups of information or files I have stored. Apply here: \url{https://openbadgefactory.com/c/earnablebadge/O4YGG2aEXZa1S/apply}

- **Proficient user**, I can use advanced search strategies (e.g. using search operators) to find reliable information on the internet. I can use web feeds (like RSS) to be updated with content I am interested in. I can assess the validity and credibility of information using a range of criteria. I am aware of new advances in information search, storage and retrieval. I can save information found on the internet in different formats. I can use cloud information storage services. Apply here: \url{https://openbadgefactory.com/c/earnablebadge/O4YGOZaEXZa1T/apply}

\textsuperscript{52} \url{http://www.openbadgenetwork.com/self-assessed-badges-for-digital-competences/}

\textsuperscript{53} \url{https://openbadgefactory.com/c/earnablebadge/O4YA5NaEXZaK/apply}

\textbf{Figure 5}: An example of an Open Badge as part of the DIGICOMP framework.\textsuperscript{53}

Beside the DIGICOMP framework there are numerous other frameworks describing digital skills. A good and comprehensive overview of definitions and frameworks of digital skills is provided by Ecorys UK (2016). Only a small selection of the current frameworks is presented in the table below to visualise the diversity of the different definitions and approaching of modelling digital skills.

**Table 3: Examples of current frameworks defining digital skills (Ecorys UK, 2016)**

<table>
<thead>
<tr>
<th>Reference</th>
<th>Digital skills definition</th>
</tr>
</thead>
</table>
| **Development Economics (2013)** | In Development Economics ‘The Future Digital Skills needs of the UK Economy’ report, digital skills are defined ‘as the attributes that allow individuals and businesses both to use digital equipment and to access, create or share digital information via the internet and thereby benefit from opportunities in the modern economy’. The report sets out what it calls ‘a functional hierarchy of these digital skills’ as:  
  ● *Advanced digital skills*: skills linked to ‘the creation and/or strategic exploitation of new digital applications, including more advanced programming and coding involved in the creation of new software, etc., but they also cover the strategic business skills needed to convert ideas into successful commercial projects and ventures’;  
  ● *Intermediate-level digital skills*: these involve ‘skills needed to implement and manage on a day-to-day basis the applications developed by those with advanced skills, but they may also provide contributions to the development of digital content, provision of system support and maintenance, etc.’;  
  ● *Entry-level digital skills*: skills related to ‘the use of digital applications designed, developed and promoted by others: involving for example searches for and/or the capturing and recording of digital data across a wide variety of business and public services, the administration of databases, the monitoring of data, contributing to the management of digital content, etc.’.                                                                                                                  |
| European e-Competence Framework (e-CF) (European Commission 2014) | This framework has been mapped against the European Qualifications Framework. The European e-Competence Framework (ibid) is structured from four dimensions:  
  ● **Dimension 1**: 5 e-Competence areas, derived from the ICT business processes Plan, Build, Run, Enable and Manage;  
  ● **Dimension 2**: A set of reference e-Competences for each area, with a generic description for each competence. Forty competences identified in total provide the European generic reference definitions of the e-CF 3.0.;  
  ● **Dimension 3**: Proficiency levels of each e-Competence provide European reference level specifications on e-Competence levels e-1 to e-5 that are related to the EQF levels 3 to 8; and  
  ● **Dimension 4**: Samples of knowledge and skills relate to e-Competences in Dimension 2. They are provided to add value and context and are not intended to be exhaustive. |
### Recommendations: Open Badges as digital credentials can be used to support the implementation of any of the frameworks defining digital skills in the following ways:

- **Designing a set of Open Badge to represent a set of digital skills** defined by a given framework, e.g. a set of four badges to represent each of the four categories in the UKforCE (2014) framework. In this way, Open Badges enable recognition and credentialing of digital skills based on a defined competency framework.

- **Defining the criteria and the evidence for earning a digital credit** certifying a certain level of a digital skill related to a specific competency area or category in a given competency framework. In this way, Open Badges enhance transparency of criteria necessary to a earn a credit. Moreover, in this way Open Badges provide orientation for learners on what is required to be recognised as digitally competent and how one can progress from one level of competency to another. The orientation and transparency provided by Open Badges may enhance the willingness for progressing own digital skilling.

- **Mapping digital skills across the frameworks** making skills comparable by setting them in a meaningful relation to one another, e.g. “skill area x in framework x is part of skill dimension y in framework y”. The concept of semantic mapping of competency frameworks developed in the Open Badge Network project aims at supporting such mapping processes in order to improve comparability of contents of credentials represented with Open Badges in this way making applying for a job, school or a project more straightforward.

An example of an Open Badge provided by Grant (2014) displayed in the figure below can be easily adapted to the recognition of other skills, such as digital skills following the dimensions/areas of a digital competency defined in a digital skills framework of choice.
For example, an Open Badge for Digital Skills could be designed as follows:

- **the title** of the badge would be related to the specific competency dimension such as “content creation”. The title appearing on the badge visual could be “Content Creator”.

- **the criteria** for issuance would align with the definition included in the given framework, i.e. “Create and edit new content (from word processing to images and video); integrate and re-elaborate previous knowledge and content; produce creative expressions, media outputs and programming; deal with and apply intellectual property rights and licences”, and

- **the badge image (PNG)** would be designed to visualise the digital skill of content creation.

Additionally, the Open Badges “Content Creator” could include the required **evidence** for earning the badge, e.g. providing links to created content and a textual explanation on how intellectual property rights and licences have been applied to produce and share this content. Further features of the Open Badge standard could include an **endorsement** of an organisation who examines and publicly acknowledges the value of the badge (e.g. educational institution, government body, standardisation bodies, employers, industry associations), in this way building and reinforcing recognition of digital skills helping earners and viewers of the badge to assess/interpret the value of that badges.

**Figure 6:** An example of an Open Badge representing a specific skill/competence (Grant, 2014).
### 4.1.2 Digital Skills in Employment

A number of recent studies provide evidence regarding the importance of digital skills for work. With digitisation transforming every economic sector, digital skills are becoming an essential asset for everyone, enabling government services, businesses and entrepreneurs across Europe to "become more connected, competitive and productive" (Digital Single Market, 2016). The Grand Coalition for Digital Jobs - a multi-stakeholder partnership led by the European Commission aims at tackling the lack of digital skills in Europe and ICT-related vacancies across all industry sectors. This new agenda sets out to (A) improve the quality and relevance of skills formation, (B) make skills and qualifications more visible and comparable, and (C) advance skills intelligence, documentation and informed career choices.

With the primary goal of Open Badges being to recognise and make learning visible, Open Badges can be purposefully applied to address the last two objectives of the Grand Coalition for Digital Jobs, i.e. **making skills and qualifications more visible and comparable, and advancing skills intelligence, documentation and informed career choices**. The technology underlying Open Badges enables to make skills visible and shareable across contexts and environments. Open Badges can be used as connectors in the digitalised worlds of education and work which shift away from the relatively static infrastructure of 20th century to the more fluid 21st century digital systems (Grant, 2014). A well-designed Open Badge makes the learning, the criteria, the assessment and the evidence visible in one digital token which is associated with the learner who earned the badge and the organisation that issued the badge (Grant, 2014).

An Open Badge may contain **multimedia information** including texts, videos, links to assignments or test scores submitted by the learner, as well as feedbacks, testimonials and references in forms of endorsements of third parties, in this way implementing an additional dimensions of trust and validation in the credentialing ecosystem. With Open Badges being interconnected and interoperable, an **open data** exchange allows badges to be shared across multiple platforms, systems, environments and contexts. Sharing open data contained in Open Badges, e.g. information about the type of recognised skills and competencies, the issuing organisation as well as criterial defined for issuing a badge, contribute to advancing skills intelligence and documentation. Also the data contained and shared with an Open Badge may **support informed career choices**, e.g. an Open Badge recognising digital skills earned in an online community or in a MOOC can be displayed as digital credentials in a learner’s social profile (e.g. Facebook, LinkedIn), blog (e.g. Wordpress), or in a digital “backpack” (e.g. Mozilla Backpack, Badge Passport). Ultimately, the learner decides how his or her data (in this case a badge) to help potential employers to bring together relevant information about a prospective employee through search results and social media profiles (Grant, 2014).

Additionally, new technologies currently built to extend the existing Open Badge standard, such as **semantic mapping of competencies** developed as part of the output “Competency Repository” in the Erasmus+ project Open Badge Network, will make skills and competences comparable and mappable to European competency frameworks. Making skills, competencies, qualifications and other qualities of the learner visible with Open Badges is already possible and will be further enhanced in the future by the dynamic scaffolding being built into the standard to make learning more visible across educational and employment contexts.

Moreover, Open Badges can be used to **stimulate the development of digital skills and use of digital media in the workplace**, recognise new skills and occupations in the changing structures of employment (e.g. creation of new jobs) and enhancing employment opportunities for lifelong
learners transitioning from one career to another, or for employees staying with their current careers and faced with new skill demands, e.g.:

“Employees struggling to shift careers after their companies are downsized can face insurmountable obstacles returning to school as adult learners, and without credentials to communicate their knowledge and skills find themselves unemployed or working in low-paying, unskilled jobs.” (Grant, 2014, p. 5).

For example, the report published by the European Commission in 2016 about the impact of information and communication technologies (ICT) on job quality found that the use of digital technologies is beginning to have a profound effect on the tasks carried out and the skills required for many jobs outside the traditional office (European Commission, 2016). The 12 non-office based job profiles presented in the study are: dairy farmer, machine operator, industrial designer, building electrician, transport clerk, car mechanic, police detective, VET teacher, property caretaker, doctor in a hospital, animator and desktop publisher.

The key finding of the EC 2016 study indicates the need for portable, digital credentials:

- “Information technologies increasingly take over routine, analytical tasks” (EC, 2016) – Open Badges can be used as instruments to recognise and communicate competencies of workers who have had to shift their careers due to digitalisation at the workplace.
- “The use of ICT tends to increase the speed, flexibility and independency of work” (EC, 2016) – Open Badges can be used to represent digital skills of workers who integrate ICT into work tasks in this way acknowledging the adoption of digital technologies in a job.
- “The use of ICT tends to increase the differentiation of competence levels among the employees” (EC, 2016) – Open Badges can be used to represent different levels of digital skills which may be crucial for filling in job positions and hiring adequate staff to manage different tasks.
- “The use of information technologies blurs the boundaries between occupations or merges them” (EC, 2016) – Open Badges can be used to designate new emerging occupations, especially those which have not yet been formally recognised as new occupations (e.g. occupations combining traditional electronics and software development, occupations combining desktop publishing and multimedia art), in this way serving as an instrument of recognition of new skills and new occupations in a transitory phase.
- “The adoption of digital technologies takes time to become mainstream” (EC, 2016) – Open Badges can be used to award adoption of digital technologies at the workplace, creating an incentive for using digital technologies to drive innovation, efficiency and quality in different economy sectors.
To sum up, Open Badges with their technological standard and the guiding principles of making skills visible and shareable align extremely well with the goals of the current European Commission initiatives to enhance digital skills of European citizens.

### 4.2 Lifelong Learning

**Lifelong learning** is the "ongoing, voluntary, and self-motivated" pursuit of knowledge for either personal or professional reasons. Therefore, it not only enhances social inclusion, active citizenship, and personal development, but also self-sustainability, as well as competitiveness and employability. *(Wikipedia)*

The European Commission designed the **Lifelong Learning Programme (LLP)** to enable people, at any stage of their life, to take part in stimulating learning experiences, as well as developing education and training across Europe. The programme ran from 2007-2013 and funded a range of exchanges, study visits, and networking activities. From 2014 on, the program continued under the new umbrella name “Erasmus+”, which contains several programs and projects, the major ones for which open badges are an interesting option, are covered below.
4.2.1 European Skills/Competences, Qualifications and Occupations (ESCO)

ESCO is the multilingual classification of European Skills, Competences, Qualifications, and Occupations. It introduces a standard terminology in 25 European languages and categorises skills, competences, qualifications and occupations relevant for the EU labour market and education and training; ESCO identifies and categorises skills, competences, qualifications and occupations in a standard way, using standard terminology in all EU languages and an open format that can be used by third parties' software.

However still under development, ESCO might be an important instrument for standardising, because Open Badge designers (such as education or training institutions) are able to describe badge criteria alongside ESCO's skills and competences terminology, making them more transparent. Next, ESCO combined with Open Badges would enhance the “internationalisation” by making use of competence descriptions in ESCO in different languages, thus making skills represented by Open Badges comparable and accessible in different countries and languages. As an example: in ESCO the transversal skill “Work as part of a team” is one of the defined skills, the German and Finnish and French translations are easily found: “Mit Anderen arbeiten”, “Yhteistyötaidot”, “Travailler en équipe”.

The vision of the Open Badge Network is a “European Badge Factory” acting as a central badging platform for Europe which would access ESCO definitions and embed them in Open Badges. The inclusion of ESCO skill descriptions in Open Badges will be one of the most powerful instruments for making 21st century skills accessible and visible in Europe.

ESCO, similar to Open Badges, has been designed to benefit diverse stakeholders in the education-employment ecosystem of the 21st century in Europe, including:

- “Jobseekers – have an easier time finding a job in another EU country, whether they're students, career changers or currently unemployed.
- Education/training institutions – are able to (1) describe the output of their qualifications with ESCO's skills and competences terminology, making qualifications more transparent and (2) adapt their programmes based on feedback from the labour market.
- Employers – have an easier time recruiting talent from abroad.
- Online job portals – such as EURES – The European Job Mobility Portal are able to match people with jobs in all EU member countries, even when CVs and vacancy notices are in different languages.”

Open Badges have the potential to reach the same beneficiaries and are also technically compatible with ESCO, given the semantic operability. Both ESCO and Open Badges follow a skill-centered approach.

---

54 https://ec.europa.eu/esco/portal/home
55 http://data.europa.eu/esco/skill/368263
56 http://ec.europa.eu/social/main.jsp?catId=1042&langId=en
57 https://goo.gl/SNp5P3

While ESCO’s vision is to provide a common “language” of skills, the vision of Open Badges is to provide a common instrument for representing skills in a digital, interoperable format. Brought together, both could prove powerful for Europe and beyond.

4.2.2 The European Frameworks (EQF, Europass, ECVET, Skills Panorama)

The European Qualifications Framework, EQF is designed to make national qualifications more transparent across Europe, promoting mobility between countries. The core of the framework consists of 8 qualifications levels described through learning outcomes (knowledge, skills and competence). National qualification frameworks are related to the EQF to better understand and compare the qualifications levels of different countries and different education and training systems. Since 2012, all new qualifications issued in Europe carry a reference to an appropriate EQF level. Open Badges that refer to a completed qualification (“big badges”) should refer to the EQF- and, preferably, national qualification levels.

ECVET is intended to facilitate the recognition of learning outcomes for the purpose of achieving a qualification. It makes use of The Memorandum of Understanding (MoU) as well as the Learning Agreement (LA). Focus of ECVET is, next to geographical mobility, on flexible and individual pathways. Open Badges can be used to record ECVET, thus strengthening both services and increasing their visibility. And, more important, as a micro-credentialing tool, they are really made for designing pathways by means of badge systems, and hence very well suited for modularisation of education.

The European Commission’s aim with Europass is to simplify and promote labour mobility in Europe. It assumes that more mobility among the working population will aid economic and social development, a high level of employment and balanced and sustainable growth. Greater mobility will also allow the European economy, labour market and working population to react more flexibly and efficiently to the changing and increasingly globalised economy, which is characterised by strong competition. The basis of the Europass is the CV which you can supplement as you wish with documents relating to language skills, international work placements and qualifications.

Europass can develop from the paper world it is now (still in most cases), into an online service that contains all sorts of information about the user’s skills, qualifications, working experience and more. When that information is verified, like it is the case with Open Badges, it will be of far more value for employers, when used to apply for a job.
Once this data is based on EU standards on competences and learning outcomes, like ESCO and ECVET, it becomes “Big Data” and may be utilised to inform research, policy and education and labour market needs. Open Badges can function as a channel to interlink different EU Programs within Lifelong Learning.

The European Skills Panorama helps regular monitoring of skills anticipation and skills assessment at the national and European level. The Skills Panorama can benefit from the aforementioned “Big Data”. It is a central access point providing data, information and intelligence on skills trends in occupations and sectors at the national and EU level.

**EHEA**: In view of the The European Higher Education Area (EHEA) launched along with the Bologna Process, higher education in some European countries, like the Netherlands, already envisage modularisation and recognition supported by Open Badges. The aims is to model study programs as modularised and badgeable systems. Modules represented by badges issued by one educational institution would be recognised by another institutions, where a study program can be continued. This is a practical example of how Open Badges may be used as “a new currency for education”.

### 4.2.3 The European Inventory on validation of non-formal and informal learning

An important development in Europe has been the adoption of the Council Recommendation on the validation of non-formal and informal learning (December 2012). The Recommendation calls for Member States to put in place, by no later than 2018, arrangements to enable individuals to have their knowledge, skills and competences acquired via non formal and informal learning validated, and to be able to obtain a full qualification, or, where applicable, part qualification on the basis of validated non-formal and informal learning experiences. The Recommendation asks the Commission to support Member States and stakeholders, including by regularly reviewing the European Inventory on the validation of non-formal and informal learning, in cooperation with the Member States.
This Inventory provides a record on how validation is being used at national, regional and local level in Europe. It is based on the work of a large network of national experts, extensive review of documents and interviews with key stakeholders. The Inventory reports point towards some challenges that need addressing, see: https://cumulus.cedefop.europa.eu/files/vetelib/2014/87250.pdf. Open badges, as described earlier as being very suitable in non-formal and informal contexts, could play a very useful role here to address a number of the challenges.

4.3 Open Education

Open Education (OE) has been inspired by the open source movement and as such has promoted the use of the Internet and the World Wide Web to free knowledge, use and reuse of resources, link ideas, enhance worldwide collaboration and also “receive credit and kudos for contributing to education and research” (Baraniuk, 2013, p. 229). There are at least three types of open learning in the field of online and distance learning, which are based on different understandings of the concept of “openness” (Witthaus et al., 2016, p. 12).

The figure below provides an overview of these three forms on open education.

<table>
<thead>
<tr>
<th>Definition of open</th>
<th>Open Education, Open Universities</th>
<th>Massive Open Online Courses</th>
<th>Open Educational Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>No start qualifications</td>
<td>No course fees</td>
<td>Free to (re)use and (re)distribute</td>
<td></td>
</tr>
<tr>
<td>Certificates</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Degrees</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Target group</td>
<td>Students, learners</td>
<td>Learners</td>
<td>Learners and educators</td>
</tr>
<tr>
<td>Main objects</td>
<td>Programmes</td>
<td>Courses</td>
<td>Learning objects</td>
</tr>
</tbody>
</table>

Figure 9: Types of open learning (Witthaus et al., 2016, p. 12)

Below we discuss the uses and relevance of Open Badges in relation to more general Open Educational Practices (OEP) in section 4.3.1, Open Educational Resources (OER) in section 4.3.2, and Massive Open Online Courses (MOOC) in section 4.3.3.

4.3.1 Open Educational Practices (OEP)

Open Badges promote a free movement and sharing of digital credentials and as such enable Open Educational Practices (OEP) (Buchem, 2016a). However, the traditional and widespread understanding of OEP has focused only on one element of Open Education, i.e. Open Educational Resources (OER) (Buchem, 2016a). For example, the International Council for Open and Distance Education (ICDE) has defined Open Educational Practices (OEP) as

“practices which support the production, use and reuse of high quality open educational resources (OER) through institutional policies, which promote innovative pedagogical
models, and respect and empower learners as co-producers on their lifelong learning path” (ICDE).

This ICDE definition has been adopted by Open Educational Quality Initiative (OPAL) and a number of publications in this area. The ICDE definition of Open Educational Practices is however exclusive of other elements of Open Education, such as Open Badges, but also of elements which will emerge in the future. Therefore, we believe it is necessary to revise the predominant ICDE definition and adjust it to the ever changing ecosystem of Open Education.

An example of an inclusive definition of Open Education is proposed by the Cape Town Open Education Declaration:

“Open education is not limited to just open educational resources. It also draws upon open technologies that facilitate collaborative, flexible learning and the open sharing of teaching practices that empower educators to benefit from the best ideas of their colleagues. It may also grow to include new approaches to assessment, accreditation and collaborative learning. Understanding and embracing innovations like these is critical to the long term vision of this movement.”

Building on the inclusive definition and vision of Open Education proposed by the Cape Town Open Education Declaration, we call attention to the fact that Open Badges are a technology and concept inherent and critical to the Open Education and should be considered in current discussions about Open Education.

Based on a comparative literature review, Buchem (2016b) analysed the emerging key three conceptualisations of Open Badges, i.e. (1) “Open Badges as Pathways”, (2) “Open Badges as Bridges”, and (3) “Open Badges as Catalysts”. These three concepts frame an extended understanding of Open Educational Practices by focusing on (1) supporting learners in creating own learning pathways, (2) bridging learning contexts and bringing together learning from different settings, and (3) catalysing change in educational practice and learning design:

- The concept of “Open Badges as Pathways” emphasises the potentials of Open Badges to document and visualise individual learning pathways over time. Casilli (2013) describes badge pathways as a way to visualise the learning journey. The value of digital badges is defined not by experts (e.g. teachers) but by learners themselves. Open Badges enable learners “to connect the outlying dots that constitute lifelong learning” (Casilli, 2013). Grant (2014) points out that Open Badges enable creating lifelong learning pathways by reflecting flexible and modular types of curricular design across multiple organisations.

- The concept of “Open Badges as Bridges” emphasises the potential of Open Badges to enhance and bring together learning in and from different contexts, including formal, non-

---

58 [http://www.icde.org/en/resources/open_educational_quality_initiative/definition_of_open_educational_practices/Definition+of+Open+Educational+Practices.9UFRzYWq.ips](http://www.icde.org/en/resources/open_educational_quality_initiative/definition_of_open_educational_practices/Definition+of+Open+Educational+Practices.9UFRzYWq.ips)

59 [http://www2.le.ac.uk/departments/beyond-distance-research-alliance/documents/opal](http://www2.le.ac.uk/departments/beyond-distance-research-alliance/documents/opal)


61 [http://www.capetowndeclaration.org/read-the-declaration](http://www.capetowndeclaration.org/read-the-declaration)
formal and informal learning contexts. The potential lies in encouraging connections between in- and out-of-school learning, bridging differences in opportunities for learning, improving school-community partnerships and making information about student learning available to formal and informal education providers (Mozilla, 2013). The value of Open Badges is connecting learning across contexts by making different learning context and different types of learning more significant and viable (Knight & Casilli, 2012).

- The concept of “Open Badges as Catalysts” emphasises the role of Open Badges as catalysts for discussions about learning and changes in educational practices, especially towards a learner-centred and learner-driven approaches. For example, Wyles (2013) describes Open Badges as a catalyst for a new learning designs. Goligoski (2012) sees Open Badges as a catalyst for legitimising informal learning experiences, particularly in view of gaining jobs, community recognition and learning opportunities. Charleer et al. (2013) show how Open Badges can serve as a catalyst for discussion and a deeper reflection about learning. Finkenstein, Knight and Manning (2013) argue for Open Badges as a catalyst for interdisciplinary explorations, discussions and collaborations.

Moreover, the understanding of Open Badges as Open Educational Practices (OEP) corresponds to the connected learning initiatives, such as (a) Connected Learning Research Network supported by the MacArthur Digital Media and Learning Initiative62, and (b) the Connected Learning Initiative (CLix)63—a collaboration between the Tata Trusts (India), Massachusetts Institute of Technology (MIT, Cambridge, Mass., USA) and Tata Institute of Social Sciences (TISS, Mumbai, India). The Connected Learning Initiative by the by the MacArthur Foundation emphasises interest-driven, openly networked and shared educational and learning practices (Ito et al., 2013). The Connected Learning model focuses on supports and mechanisms for building environments that connect learning across the spheres of interests, peer culture and academic life (Ito et al., 2013). The CLix initiative by Tata, MIT and TISS has been created to provide young people from underserved communities opportunities for participation in quality education offerings through the meaningful integration of technology. Such initiatives provide valuable frameworks for a broader understanding of Open Educational Practices including Open Badges.

4.3.2 Open Educational Resources (OER)

The **Open Educational Resources (OER)** movement emerged with an aim to break down barriers to the production and use of educational materials beyond proprietary systems locked up behind passwords and to encourage and to enable freely sharing of content in the information society, giving rise to new opportunities for learning (OECD, 2007):

“Although learning resources are often considered as key intellectual property in a competitive higher education world, more and more institutions and individuals are sharing digital learning resources over the Internet openly and without cost, as open educational resources (OER).” (OECD, 2017).

UNESCO defines Open Educational Resources as

---


63 [https://clix.tiss.edu/about/](https://clix.tiss.edu/about/)
“teaching, learning and research materials in any medium, digital or otherwise, that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions. Open licensing is built within the existing framework of intellectual property rights as defined by relevant international conventions and respects the authorship of the work” (UNESCO, 2002)

Following from UNESCO’s definition, OECD defines Open Educational Resources as “digitised materials offered freely and openly for educators, students and self-learners to use and reuse for teaching, learning and research” (OECD, 2007).

In this sense, Open Educational Resources encompass different forms of the learning content (such as text, visuals, video, audio) but also software tools to develop, use and distribute content under open licences (OECD, 2007). From the perspective of the free sharing aspect in the OECD definition, Open Badges as units but also their single elements (e.g. badge pictures) can be considered as forms of Open Educational Resources (OER) – **Open Badges are digital assets** which can be freely shared using open licenses. This can be substantiated by at least two elements: The Creative Commons Content License extension to the Open Badge Standard enables issuers to indicate what permissions are granted to the public to reuse BadgeClass metadata in their own badges\(^{64}\). When creating and issuing an Open Badge in some issuing systems such as the Learning Management Moodle, it is possible to specify an open licence for the badge picture, which can then be shared and reused.

However, Open Badges are not designed for use as learning or educational materials in sense of open courseware but rather as **markers of learning and achievement**. In this sense Open Badges are a separate category of Open Educational Practices: **Open Digital Credentialing**. OECD (2017) lists three arguments for governments to support OER projects. The same three **OECD arguments apply to Open Badges**:

- Open Badges expand access to learning for everyone but most of all for nontraditional groups of students and thus widen participation in formal education.
- Open Badges can be an efficient way of promoting lifelong learning for both the individual and the government.
- Open Badges can bridge the gap between non-formal, informal and formal learning.

The three arguments presented above present a common rationale for both Open Educational Resources and Open Badges as forms of Open Educational Practices.

The process of mainstreaming Open Educational Resources provides an interesting example and a relevant policy model for Open Badges. Open Educational Resources (OER) as a term itself was coined at UNESCO 2002 Forum on Open Courseware. One of the key milestones in establishing Open Educational Resources at policy level has been the **2012 Paris OER Declaration**\(^{65}\):

---

\(^{64}\) https://openbadgespec.org/extensions/

“The Declaration marks a historic moment in the growing movement for Open Educational Resources and calls on governments worldwide to openly license publicly funded educational materials for public use.”

The Paris Declaration draws upon a number of previous declarations and guidelines on Open Educational Resources, such as (a) the 2007 Cape Town Open Education Declaration, (b) the 2009 Dakar Declaration on Open Educational Resources, and (c) the 2011 Commonwealth of Learning and UNESCO Guidelines on Open Educational Resources in Higher Education. Given a long track record of establishing Open Educational Resources at policy levels dating back to at least 2002, one can see that a road for establishing Open Badges at policy levels is yet in its infancy. As it has taken for Open Educational Resources to gain public awareness, so it will probably take a few years for Open Badges to become a recognised concept in the Open Education Ecosystem.

**Recommendations:** With over 10 years of UNESCO’s support of Open Educational Resources, a number of congresses, project and events as well as the Open Training Platform, a comprehensive database of more than 10,000 OERs designed to facilitate teaching, learning, and research developed by UNESCO’s Communication and Information Sector, winning UNESCO’s support for mainstreaming Open Badges may be the most promising strategy for promoting the development of specific policies for using Open Badges within wider strategies for recognising learning and advancing education. It would be valuable to generate a declaration on Open Badges similar to the 2012 Paris Declaration on OER.

The key recommendations of the 2012 Paris OER Declaration are equally relevant to Open Badges:

(a) fostering awareness and use of Open Badges,
(b) reinforcing the development of strategies and policies on Open Badges,
(c) supporting capacity building for the sustainable development of Open Badges quality,
(d) fostering strategic alliances of Open Badges,
(e) encouraging the development and adaptation of Open Badges in diverse languages and cultural contexts,
(f) encouraging research on Open Badges,
(g) facilitating finding, retrieving and sharing of Open Badges.

**4.3.3 Open Courses and MOOCs**

**Massive Open Online Courses (MOOCs)** are online courses designed for a large number of participants (massive), can be accessed by anyone and at no cost (open), are offered on web-based platforms (online) and have a form of a course with a beginning and an end (course). MOOCs can take on different forms, such as cMOOCs (connectivist MOOCs), in which learners are encouraged to contribute freely and actively by using social media, and xMOOCs, in which learners participate in more traditional courses with pre-recorded video lectures and scalable forms of assessment (Witthaus et al., 2016, p. 12). Initiatives in a number of European countries propose to recognise learning from MOOCs as formal credentials.

---


For example, the Accreditation Organisation of the Netherlands and Flanders (NVAO) issues a memorandum on the formal recognition of online learning, including MOOCs, in higher education (NVAO, 2014).

The NVAO recommends that a MOOC certificate:

“(a) formally and clearly states on whose authority it was issued, provides information on the content, level and study load, states that the holder has achieved the desired learning objectives, provides information on the testing methods employed and lists the credits obtained, according to a standard international system or in some other acceptable format.

(b) is demonstrably based on authentication;

(c) states that the examinations have been administered under supervision and specifies the nature of this supervision.” (NVAO, 2014, p.9)

All the criteria proposed by NVAO in the Netherlands can be met by issuing Open Badges to MOOC participants.

The report on validation of non-formal MOOC-based learning by Witthaus et al. (2016), published as a Science for Policy report by the Joint Research Centre, the European Commission’s in-house science service, makes a clear case for using Open Badges to recognise learning in open online courses including MOOCs (Massive Open Online Courses):

“Badges are free of charge and can be gained automatically as the course progresses, for having achieved specific results, such as finishing an activity in a course, participating a certain number of times in the community (...)” (Read & Rodrigo, 2014, p. 286 cited in Witthaus et al., 2016, p. 33)

The study conducted by Witthaus et al. (2016) identified three broad categories of recognition practices in higher education concerning learning outcomes achieved through MOOCs, i.e. (1) recognition for registered students, (2) recognition of MOOC credentials allowing entry into higher education, and (3) recognition for registered students who successfully complete externally provided MOOCs.

Below we present selected examples of how Open Badges are used in MOOCs.

- **Recognition for own registered students** – Open Badges are issued to registered students on the iMooX platform which is run by TU Graz, University of Graz in Austria and the Land Steiermark. The iMooX project is funded by the Styrian Provincial Government’s Future Fund and provides all materials used as Open Educational Resources (OER) under UNESCO patronage. The MOOCs on the iMooX platform are accessible to a wider public with over 6.000 registered users in 2015. iMOOC issues both macro and micro badges which are conform to the Open Badge specification. Registered students can earn a number of different badges, e.g. for completing a number of self-assessment quizzes (mico-badge). Upon completion of a course, a course completion badge is issued (macro-badge) (Wuester, 2015; Wuester & Ebner, 2016).

---

67 [http://imoox.at/badgeit/badgeCriteria/badge_15_criteria.html](http://imoox.at/badgeit/badgeCriteria/badge_15_criteria.html)

68 [https://backpack.openbadges.org/share/3c31b2df45c454430e8b17c0c1cac529/](https://backpack.openbadges.org/share/3c31b2df45c454430e8b17c0c1cac529/)
• **Recognition of MOOC credentials for entry to higher education** – Open Badges are issued to convert MOOC learners into enrolled students (Witthaus et al., 2016). For example, Keene State College issues Open Badges as a means of certification for completing open courses in psychology which are offered on the Canvas platform. Open Badges earned in the open courses are recognised as university certificates. For example the “Introduction to Psychology Badge” is specified as follows “The holder of this Badge has completed with distinction Introductory Psychology (PSYC 101) offered on the Canvas Network.” Another example is Open University UK offering a number of Badged OpenLearn courses. The free Open University digital badge is awarded for completing the course and appears on the Statement of Participation (see the open course “Taking your first steps into higher education” as an example).

• **Recognition of external MOOCs in study programs** – According to Witthaus et al. (2016), the new development at the Open University in the Netherlands (OUNL) will potentially enable registered students to have credits from open learning including MOOCs which may be recognised as part of their higher education degrees: “Starting in 2016, BA students will be given two “free” 15-credit modules to fill from courses outside the programme they are enrolled on. These credits could come from other courses within the OUNL, or from other universities in the Netherlands, or also possibly from MOOCs, on condition that students obtain institutional approval for the latter” (Witthaus et al., 2016, p. 42). The tendency to allow students participate in external MOOCs as part of their study program and recognising the participation as a formal credit can be observed at other European higher education institutions as well. For example the University of Salzburg in Austria integrated in their computer science programme a possibility to opt for MOOCs offered by external MOOC providers such as Udacity, Coursera and edX. The recognition of participation in external MOOCs can be based on Open Badges which specify the criteria necessary for attaining a formal credentials, such as for example the criteria proposed by NVAO, NL (NVAO, 2014).

Below we provide a short summary of Open Badges in view of Open Education.

### 4.4 Summary

The examples presented in the sections above make a clear case for a firm place of Open Badges in the Open Education ecosystem:

• **Open Badges enhance new Open Educational Practices (OEP)** related to recognition of learning both in the process (formative) and at the end of a process (summative).

• In their function as open digital credentials, **Open Badges may contribute to enhanced motivation, better orientation and unlocking of new opportunities** once they are shared freely on the web.

• Open Badges like OER have built in mechanisms for using open licenses such as Creative Commons licences, which enable **sharing and using of digital content**.

---

69 [https://learn.canvas.net/courses/65/modules](https://learn.canvas.net/courses/65/modules)

70 [https://beta.openbadges.org/share/c113e1ce416b9c6c58c69b0a47e467134a1/](https://beta.openbadges.org/share/c113e1ce416b9c6c58c69b0a47e467134a1/)

71 [http://www.open.edu/openlearn/about-openlearn/try#Badged open courses](http://www.open.edu/openlearn/about-openlearn/try#Badged open courses)

72 [http://www.open.edu/openlearn/education/taking-your-first-steps-higher-education/content-section-overview](http://www.open.edu/openlearn/education/taking-your-first-steps-higher-education/content-section-overview)
• The Open Badge movement can also learn from the Open Educational Resources movement, especially when it comes to **establishing the concept at policy levels**. Here, the different declarations, including the most prominent 2012 Paris OER declaration can serve as an inspiration for the Open Badges advocates.

• Open Badges are also becoming important instrument for **credentialing in open courses** such as MOOCs, allowing for recognition of learning taking place within MOOCs but also for recognition of credentials earned through MOOCs as entry points to formal education and employment.

Therefore it is important to include Open Badges in a wider discourse on Open Education. The figure below provides an overview of different elements of Open Education including Open Badges (cf. Figure 10).

**Figure 10: Open Education Ecosystem (Buchem, 2015)**

*With the Open Education Ecosystem being created by linking the different elements into Open Educational Practices (OEP), the recommended approach is to combine available element of open education including Open Badges to create value for both individuals and organisations.*
5. Policy Recommendations Research: Methodology and Results

In order to explore the perspective of European policy stakeholders on Open Badges, five research studies have been applied in the Erasmus+ Open Badge Network project:

- **European Online Survey** led by Beuth University of Applied Sciences Berlin (DE) was conducted from the beginning of April until the beginning of June 2016 with selected European policy makers from countries represented by project partners as well at the EU level.

- **Germany Online Survey** led by Beuth University of Applied Sciences Berlin (De) was conducted as part of a master thesis in summer semester 2016. The master thesis focused on establishing Open Badges at policy levels in Germany and was supervised by Prof. Dr. Ilona Buchem.

- **European Consultations** led by Cambridge Professional (UK) with selected European policy stakeholders in Brussels im May 2016.

- **Consultations** conducted by DUO (NL) in the Europass Working Group on Innovation

- **Consultations** conducted by ARTES (IT) with the National Project Manager of PIAC Italy

Below we present the results from the five research studies listed above.

5.1 Results of the European Policy Online Survey

The Online-Survey on Policy Recommendations for Open Badges was started in April 2016 and ended at the beginning of June 2016. Altogether 21 respondents representing diverse policy-making organisations from the following countries participated in the study: Germany, Hungary, Italy, Netherlands, UK, Poland, Poland, South Africa and Switzerland.

The most frequent positions/functions of the respondents in their organisations included chairman, CEO, director, senior consultant and manager. 45% of respondents represented an organisation from the field of educational policy, 25% from the field of research-related policies and only 15% from the field of employment policies. 30% of respondents stated they represent a governmental organisation, 25% a non-governmental organisation and 25% a non-for-profit organisation. 55% of respondents indicated that their level of activity/influence is national, 45% regional, 25% communal, 20% sectoral 15% global and 10% European (multiple-choice was possible).

The results related to key 10 questions from the European Online-Survey are presented below:

1. **What is your view on the recognition of competencies in your country/region?**

The results indicate that the recognition of competencies in Europe is in general not effective at all with a tendency towards positive perception of recognition in formal settings, mediocre perception in non-formal and negative perception in informal settings. Clustered results (i.e. ratings 1 and 2 summarised as “good”, 3 and 4 as “mediocre” and 5 and 6 as “poor”) show that:

73 [http://goo.gl/forms/aTMDhvHEyjEEdVbl2](http://goo.gl/forms/aTMDhvHEyjEEdVbl2)

74 [http://goo.gl/forms/oM3EpotjtioGc3i52](http://goo.gl/forms/oM3EpotjtioGc3i52)
45% of respondents assessed the recognition of competencies in formal settings as good, 40% as mediocre and 15% as poor,

5% of respondents assessed the recognition of competencies in non-formal settings as good, 70% as mediocre and 25% as poor,

15% of respondents assessed the recognition of competencies in informal setting as good, 30% as mediocre and 55% as poor.

3.1 How effective is the recognition of competencies ...

Figure 11: Quality of recognition of competencies in formal, non-formal and informal settings, n = 21, scale from 1 “very good” to 6 “very poor”.

Some of the key comments made by respondents on this aspect were:

“The recognition of competences in formal settings will be successively expanded. The situation in non-formal settings is very heterogeneous. There are only a few established tools for recognition of competencies in informal settings.”

“At a national level a system of recognition of informal learning is clearly defined, but its implementation at the local level is very limited.”

“I am referring especially to formal settings (universities / higher education). According to the Bologna reform, modules / learning scenarios should facilitate the development of students’ competencies and assessments should be about the reached competencies. As far as I see, this is not yet widely implemented, which might be different in non-formal settings.”

In general the results indicate that recognition of competencies in Europe still poses a number of problems.

(2) What types of competencies deserve more attention, e.g. for employment, career etc.?

Some of the key responses included:

- Digital skills, employment skills, communication skills, team skills
- Competencies that are acquired/developed in volunteer work
- Career, critical thinking, communication, creativity
- Medicine and teaching competences
- Media competencies, reflecting capacity, handling of complexity, creativity
• Multi-disciplinary competencies
• Basic learning skills
• Entrepreneurship, social skills
• Values, which are often missed and misunderstood
• Adequate behaviors and capacity of adaptation at workplace settings and rules
• Everything people do in the field of care in informal settings, e.g. caring for aged relatives
• Problem-solving competencies, competencies for self-directed learning, collaboration competencies
• Soft competences
• Transferrable project based skills (e.g. team working, management etc.)
• Fine-grained technical skills (use of specific tools/processes)

(3) What are the key instruments/methods for the recognition of competencies in your area/region?

Some of the key responses included:
• Salary
• Employers
• Certificates
• Specific legislation
• Third-party-assessment
• Portfolio method, Self-reports – some universities slowly begin to foster the use of (E-)Portfolios
• Assessment Centers, MELBA, HAMET, Geva-Test, observations and other tests
• Formal (state) recognition of officially acquired professional qualifications
• Statements (‘Testimonials’) of skills, knowledge and experience, supported by specific and relevant evidence, endorsed and ratified at first hand by qualified colleagues and independently tested by skilled practitioners representing a range distinct and relevant disciplines
• NQF for formal, RPL for non-formal and informal competencies
• SQA - recognition of prior learning
• ProfilPASS for the recognition of informal and conformal acquired competences:
• Professional exams (both IVET and Higher Vocational Training) and Validation of Informal Learning (limited in 3 professional areas: construction, logistics and administrative professions such as clerks)
• In contradiction to the requirements of Bologna, at universities traditional forms of assessments predominate, e.g. exams or oral exams (focus on subject-specific knowledge)

(4) How aware are you of Open Badges?
Most of the respondents were somewhat aware of Open Badges but were not sure how they can be used (see figure below). However, a large part of respondents also stated they were well aware of Open Badges and knew how they can be used. Only 24% of respondents were not aware of Open Badges.

4.1 How aware are you of Open Badges? (21 Antworten)

![Pie chart showing awareness levels of Open Badges]

Figure 12: Awareness of Open Badges, n = 21

(5) Which features of Open Badges as digital micro-credentials would you consider important for the recognition of competencies?

The features of Open Badges recognised as “important” by the respondent were:

- Verifiable (embedded metadata) – 20 responses
- Granular (level of recognition) – 19 responses
- Interoperable (technical standard) – 19 responses
- Shareable (digital media) – 19 responses
- Flexible (linking elements) – 18 responses
- Global (ecosystem across borders) – 17 responses
- User owned (own repository) – 16 responses
- Cost-free (no fee) – 16 responses
- Aligned to competency frameworks (e.g. EQF, ECVET, ESCO) – 15 responses

The features of Open Badges recognised as “unimportant” by the respondents were:

- Distributed (no regulations) – 10 responses
- Trackable (big data) – 9 responses
- Open source – 9 responses
In general most of the key features of Open Badges are considered important by policy makers for the recognition of competencies.

(6) **What features of Open Badges would need to be changed/adjusted in order to enhance their wider use as digital instruments of competency recognition?**

Some of the key responses included:

- More information to a wider public about the existence and the use of Open Badges, more awareness, reliability, better recognition
- It's important to make them official in EU, make them vastly used by law or by cooperation with popular sites, like facebook. I don't see any other possibility
- Open Badges are not well known in most fields of (traditional) formal and non-formal learning. Especially teachers who are not interested in learning with digital media should be informed about Open Badges
- In order to get public notice and compliance, the implementation of Open Badges could be offered by choice right from Kindergarten and done parallel to the regular rating systems
- Creating a link with the European Guidelines for validation of non formal and informal learning, as well as with national systems for validation of non formal and informal learning.
- Gaining more educational institutions/organisations to register by advertising and providing information in the country's home language
- Information for employers about the meaning of Open Badges, to make it possible for them to appreciate the skills registered in an applicant's Open Badge.
- A non-digital equivalent would make them more accessible to many prospective interests
- Global standards and quality assurance measures are required
- A dilemma seems to me the quality assurance or similar standards in Open Badges. For providers, in my opinion, it is attractive to define their own criteria for Badges (for example for the MOOCs of e-teaching.org); for learners and employers on the other hand, reliable and comparable systems would be desirable. (I myself in some cases have earned badges for very minimum requirements, which, in my opinion are absolutely worthless as proof of performance.)
- Clearly link Open Badges to existing qualifications, focus on recognition and acceptance of the system by stakeholders and decision makers
- Use Open Badges as a tool in existing validation procedures
- Easy to handle tools to design, distribute and collect badges
- Ability to display open badges where employers can access them

(7) **What statistical data collected with Open Badges would be of interest?**

Some of the key responses included:

- Data related to the types of competencies recognised with Open Badges (90,5%)
- Data related to organisations issuing Open Badges (76.2%)
- Data related to the earners / receivers of Open Badges (61,7%)
Data related to the geographic distribution, e.g. what countries issue most badges, would be interesting to only 23.8% of respondents.

(8) What do you think about the potential of Open Badges?

Some of the key responses included:

- Open Badges integrated in digital CVs and/or ePortfolios can be helpful for job applicants (YES: 100%)
- Open Badges can be used as digital representations of certificates and diplomas (YES: 95%)
- Open Badges can be helpful for the recognition and/or accreditation of prior learning (YES: 90.5%)
- Open Badges can help recognise learning of groups at risk, including refugees (YES: 86%)
- Open Badges can help employers search for candidates (YES: 81%)

(9) Where would you see the position of Open Badges in the formal, non-formal and informal education?

Some of the key responses included:

- Everywhere where competences should be precisely described
- Open Badges could usefully applied across all educational areas, linking formal, non-formal and informal education
- In formal settings as recognition of modules/parts of a degree, in non-formal and informal settings as recognition of competencies
- In formal education: digital representation of extra effort (curricular) Non-formal/informal: to show prior learning
- Non-formal educational environments would have our priority
- Mostly in informal education
- More towards non-formal, but should increasingly be used in the formal space

Some respondents left longer comments on this aspect, for example:

“I think Open Badges have great potential in all of these settings. Downside being that they will probably have some kind of commercial use that will make it more difficult to appreciate the genuine badges.”

“I see Open Badges as a combination of all three categories of competences as a possible foundation for all areas of Life Long Learning.”

“It largely depends on contexts, training systems and Learning cultures. They could a play a complementary function with respect to formal certification systems. They could have a role in specific professional settings in recruitment processes.”

“The greatest potential for Open Badges, in my opinion, lies in the context of non-formal education, respectively in all fields without (cross-institutionally) recognized certifications, such as training and adult education. For example, our project sometimes conducts MOOCs but cannot award them with ECTS; instead we use badges. In the field of formal
education, I think, there are other ways of recognition of learning outcomes, and in informal settings this does not seem so relevant to me.”

“I think badges can play a major role in all these settings. Their ability to capture granular, evidence-based content is their strength.”

“The success of Open Badges highly depends on how many institutions/providers of education register and make it possible for their participants to prove their qualifications. I rather see the potential in the non-formal and informal field.”

(10) What organisations/persons could be interested in exploring the possibilities of Open Badges?

Some of the key responses included:

- Any educational institution
- Every high school and educational providers, employers and employees - if not, there is no reason to use them at all
- Open Badges can be interesting for everyone who wants to display his or her skills that have been acquired through further non-formal education
- Most universities should be interested, under what is called the HEAR, Open Universities
- Target group representations, job agencies, refugee centers, training centers, universities, employers, recognition agencies
- All organisations, especially VET and non-funded education
- UNESCO
- Organisations and people who offer courses for non-formal learning, especially in fields with no established certificates or who work in the field of recognition of informal learning

The final question of the survey was: “Would you recommend Open Badges to other organisations?” 62% of respondents would recommend Open Badges.

5.2 Results of the German Policy Online Survey

The German Online Survey was conducted as part of a master thesis at Beuth University of Applied Sciences, supervised by Prof. Dr. Ilona Buchem. The survey was sent to selected German policy makers in summer semester 2016 and altogether 11 respondents answered all questions in the survey. The key positions of the respondents included (a) a department manager, (b) chairperson, and (c) researcher. The key participating organisations included the Federal Ministry of the Interior (BMI), the Federal Institute for Vocational Education and Training (BIBB) and the German Institute for International Educational Research (DIPF).

The respondents were asked similar questions to the European Online Survey:

- **Recognition of formal learning**: 72,8% of respondents considers the recognition of learning in formal settings in Germany “very good” to “good”. Some respondents specifically mentioned the Federal Recognition Act as a useful legal framework for the evaluation of foreign professional or vocational qualifications and opening up recognition to
target groups not previously entitled to recognition under Federal Law\textsuperscript{75}. In general respondents stated that the legal regulations in Germany are clear and stable.

- **Recognition of informal learning:** 45.5\% of respondents stated that the recognition of informal learning in Germany is mediocre (ranking “3” on the scale from “1” very good to “6” very poor). The respondents complain that there is no formal or legal procedure for recognising learning from informal settings. One of the respondents pointed out that the recognition of informal learning is possible under the Federal Recognition Act provided there is already a formal qualification/degree. However, respondents pointed out that the recognition of informal learning in Germany differs extremely from field to field.

- **Recognition of non-formal learning:** None of the respondents stated that the recognition of non-formal learning in Germany is very good or good. Most responses indicate that the recognition of non-formal learning is mediocre (45.5\%), poor (18.2\%) or even very poor (36.4\%). The largest obstacles are seen in missing regulations and differences between disciplines and domains.

- **Awareness of Open Badges:** 54.5\% of respondents were not aware of Open Badges when answering the survey. 27.3\% were only somewhat aware but did not exactly know how to use Open Badges. None of the respondents stated that they knew Open Badges very well.

- **Open Badges for recognition of competencies:** 82\% of respondents consider Open Badges as appropriate tools for recognition of competencies. Only 18\% think that Open Badges are not appropriate for recognition of competencies. Some of the key barriers names are the lack of an accreditation center which could provide quality assurance. One of the comments point out to the fact that everyone can issue Open Badges even without fulfilling any minimum quality standards. Probably due to this reason, only 45\% consider Open Badges as useful instrument for formal accreditation. One respondent points out that formal accreditation with Open Badges can be only possible if criteria are specified clearly and according to valid standards. 73\% thinks that Open Badges may help recognise competencies of groups at risk such as refugees. One respondent points out that Open Badges may be helpful for groups at risk if Open Badges meet international standards.

- **Competencies which deserve more attention:** Most respondents list competencies acquired in non-formal and informal settings, soft skills, competencies acquired through voluntary work and employment-relevant competencies.

- **Important features of Open Badges:** The following features of Open Badges were considered as important for the recognition of competencies: digital references for lifelong learning – 91\%; flexible (enabling recognition of learning in different learning settings) – 73\%; user owned and manageable in a central application (e.g. backpack) – 73\%; stackable (enabling to visualise learning pathways) – 73\%; granularity (enabling description of competencies at different levels) – 64\%; enhance career/employment opportunities – 64\%; interoperable – 64\%; can be linked to competency frameworks such as EQF, ECVET – 64\%; global (enabling sharing across borders) – 55\%; metadata based – 55\%; open source (enabling further development of the standard) – 55\%; can provide relevant data on issuers, earners and competencies – 45\%.

● **Open Badges for career/employment:** All respondents answered yes to the question about whether Open Badges as part of digital CVs and/or ePortfolios may be helpful for job applicants for unlocking career/employment opportunities. One responded added that the potential of Open Badges as enhancers of career/employment opportunities largely depends on the quality of Open Badges included in digital CVs and/or ePortfolios. 55% of respondents think that employers will look for candidates based on Open Badges. Some comments however pointed out possible risks, such as lack of individuality (everyone can have the same badge), and not all industries are open towards new instruments.

● **Challenges of Open Badges:** Open Badges may possibly foster a culture of permanent assessment, risk of devaluation, missing quality standards (national and international).

The respondents to the German survey formulated a number of recommendations for establishing Open Badges at policy levels, such as:

- More information for policy makers
- Dissemination, advertising
- Pilots with evaluations in higher education
- Establishing a standardisation process for Open Badges
- Enabling comparability of competencies designated with Open Badges
- Linking Open Badges to the formal accreditation system

In general the German respondents showed interest in Open Badges and ascribe a number of potentials to Open Badges, such as making recognition of learning more efficient and straightforward. Only one respondent opposed the concept of Open Badges and saw more risks than potentials, especially related to the assessment culture, lack of individuality and standards.

### 5.3 Results of the European Commission Consultations

On 17 May 2016 Nigel Lloyd (CamProf) and Tim Riches (Digitalme) held meetings in Brussels with members of the Directorate General of Employment, Social Affairs & Inclusion [EMPL]:

- the team responsible for the Europass tools: Carlo Scatoli, William O’Keeffe and Martin Le-Vrang.
- Jens Bjornavold who leads the initiatives on EQF and validation of prior learning.

In order to foster closer links between employment and education (especially VET), Cedefop and all the units dealing with skills and qualifications (including Europass and EQF) have been moved from DG EAC to DG EMPL.

In the discussions about Europass the following points were made:

- Europass is being revised, the team is working on the future concept, with the intention of publishing an updated set of tools in July 2017, but it will be an ongoing process with a growing family of transparency tools. Europass will continue to provide a family of standard formats to support mobility, lifelong learning and upskilling.
- Currently there are European legal and political agreements on the nature of what will be developed.
Europass will act as a set of on-line documents which can be linked to each other (for example to the Europass CV), to national databases where qualifications are held, and can be modified and made available to potential employers.

It seems highly likely that the Open Badges format could be compatible with Europass.

There is a growing problem of fake identities. What protections do Open Badges have against this? Do Open Badges have digital signing? Can they be used for ‘high stakes' verification?

ESCO (see 4.2.1 above) will define a set of core competences for each occupation, together with a set of options that cover national differences.

A forthcoming ECVET conference might be a suitable occasion to present Open Badges.

In the discussions about EQF the following points were made:

- The European Commission was about to publish (on 7 June) the New Skills Agenda for Europe, which includes:
  - a revised EQF (becoming a permanent, continuing process, with periodic renewal of the referencing of NQFs to EQF, extending referencing to include international qualifications, vendor (private sector) qualifications, opening it up to qualifications from countries outside EQF, strengthening EQF’s credibility by providing principles for quality assurance and principles for credit transfer).
  - a revised Europass (so that it becomes a portal to a growing family of transparency tools, in addition the certificate supplement will be given an EQF level).

- The issue of fake qualifications was again raised. What protections do Open Badges have against this? How can anyone identify what degree of trust they can have in a particular badge.

- All European qualifications are expressed in terms of learning outcomes (LOs). To what extent does the ‘Criteria field’ for Open Badges provide LOs? Cedefop is currently working on a ‘Handbook for Writing LOs’. if Open Badges is going to provide qualifications, it will be important to restrict the criteria field to LOs.

- To what extent are badges linked to National Qualification Frameworks (NQFs)?

- Linking to occupational standards and other definitions of competences will be helpful both as a source of LOs and as a means of linking to NQFs.

- The French NQF includes a separate register of qualifications which are not large enough to be worth referencing to the NQF.

- What do employers think of badges, how do they use them?

5.4 Results of the Europass Consultations

The Europass Innovation Paper has been developed by the Europass Innovation Working Group under the involvement of DUO (NL), which is also a project partner in the Open Badge Network project. The Paper is based upon consultations with employers, HR-professionals and job seekers. The Europass Innovation Paper envisages an online service that includes a “Personal Environment” containing all sorts of information about the user’s skills, qualifications, working experience and more. Presentation of this data is highly customisable by the end-user. It will
contain information **verified** by third parties, like the endorsement feature of Open Badges, which employers and other labour and education market actors can rely upon.

For different EU programs, verified information in the form of Open Badges can be issued through a separate "Issuing Environment". This environment can be built around EU standards on competences and learning outcomes, like ESCO and ECVET. These Personal and Issuing Environments would form a stable base, which will allow for the importing and exporting of digital information in whatever form future labour and education market needs dictate, and utilising whatever technologies become available in the future. Because this data will contain large quantities of quality, verified data on skills and qualifications, based on standards, this data can also be utilised to inform policy and education and labour market needs.

5.5 Results of the PIAAC Consultations

Additionally, ARTES conducted an expert interview with Gabriella Di Francesco, which is a member of the Institute for the Development of Vocational Training of Workers, ISFOL and the National Project Manager of the International Assessment of Adult Competencies, PIAC.

Gabriella Di Francesco is a reputed expert and counsellor of the government and the point of reference for all policies on competence assessment and certification in Italy. Gabriella Di Francesco represent the Italian Government in any EU commission on competences, accreditation and certification of competences.

The results of the interview are presented below.

**Interview with Gabriella Di Francesco in Bologna on 15 July 2016 by Lilia Infelise**

1 Recognition of competencies

1.1 How effective is the recognition of competencies in Italy

The formal system is very good, nothing exists in the informal system, from 2012 important innovation happens for the recognition of non formal learning. Before 2012, as regards non formal learning in Italy there are a lot of best practices well documented. After 2012 Italy defines a formally established advanced system for the recognition and validation of competences achieved throughout working experiences, outside the formal education.

In terms of formal acts there is an important reform in 2012 for the implementation of a national system for the recognition and validation of competences outside the formal education and training systems. In practice the concrete application is still very poor.

The critical factors for the concrete application are: needs of important financial resource, lack of competences in the Public Administration, very low administrative procedures, difficult relationship among State and Regions.

1.2 What types of competencies deserve more attention, e.g. for employment, career etc.?

All transversal and basic competences such as: literacy, numeracy, communication, problem solving, etc.

---

76 [http://www.isfol.it/en](http://www.isfol.it/en)

77 [http://www.oecd.org/edu/innovation-education/adultliteracy.htm](http://www.oecd.org/edu/innovation-education/adultliteracy.htm); [https://www.youtube.com/watch?v=_s30tqQHiKE](https://www.youtube.com/watch?v=_s30tqQHiKE)
1.3 What are the key instruments/methods for the recognition of competencies in your area/region?

There is a national repertoire and national defined standard of competences. We lack a digital system but it is going to be implemented soon.

2. Open Badges as Digital Micro-Credentials

2.1 How aware are you of Open Badges?

I am not particularly aware and as far as I know in Italy they are not used.

2.2 Which features of Open Badges as digital micro-credentials would you consider important for the recognition of competencies?

- Cost free (no fee)
- Interoperable (technical standard)
- Flexible (linking elements)
- Aligned to competencies (e.g. EQF, ECVET, ESCO)

2.3 What features of Open Badges would need to be changed/adjusted in order to enhance their wider use as digital instruments of competency recognition?

I cannot comment, and I do not know enough! I will visit your site and understanding more I can say more.

2.4 What statistical data collected with Open Badges would be of interest?

Please choose the options which you think are relevant for policy making:

- Data related to the types of competencies recognised with Open Badges
- Data related to the geographic distribution, e.g. what countries issue most badges

2.5 What do you think about the potential of Open Badges?

Our companies trust the formal system certification, I am not very confident that Italian companies will use them; but they must be duly promoted, a strong communication campaign would be needed. They could be very useful to complete a portfolio or CVs. It could be very interesting for young people, refugees, in general for the recognition and certification of non formal learning.

2.6 Where would you see the position of Open Badges in the formal, non-formal and informal education?

We must test them! They must demonstrate what they promise.

2.7 What organisations/persons could be interested in exploring the possibilities of Open Badges?

The young people who need a self assessment, but also the public job agencies could be interested. As a friendly tool for young people is perfect but to be used by the public bodies they must have good scientific foundations, a robust quality.

3. Recommendations

To be cost free. Invest a lot in communication, have a robust quality assurance and scientific foundation.
6. Summary

This Discussion Paper for establishing Open Badges at Policy Levels is part of the Open Badge Network, Erasmus+ strategic partnership on Open Badges to address policy stakeholders at supranational and national level in the areas of educational and employment policies. This discussion paper provides policy makers with information about Open Badges, their practical and potentials uses as well as possible links to current European policies.

Some of the key policy recommendations from this paper are:

• European frameworks and initiatives, such as ESCO and Lifelong Learning frameworks should take Open Badges into account as instruments which have a potential to accelerate the uptake and reach the defined objectives. For example, the current updates to EQF and Europass should consider Open Badges as instruments in supporting current European policies.
• European policy makers should support using Open Badges to describe all learning in terms of learning outcomes, and to enhance the development of the ESCO taxonomy of learning outcomes that can be used for occupations, competences and qualifications.
• European policy maker should support and promote Open Badges to continue increasing emphasis on competence-based learning and assessment, beyond formal education.
• European policy maker should support and promote Open Badges to continue increasing emphasis on lifelong learning and recognition of informal and non-formal learning.
• European policy maker should support and promote Open Badges to continue increasing emphasis on modularity and granularity (decreased size) of qualifications.
• European policy maker should support and promote Open Badges to continue increasing emphasis on an increased use of innovative and flexible learning pathways and assessment methods, particularly for higher level competences as the workforce becomes increasingly skilled, multi-skilled and professional.
• European policy maker should support and promote Open Badges to continue increasing emphasis on transparency and quality assurance of assessment decisions by awarding bodies.
• European policy maker should support and promote Open Badges to continue increasing emphasis on the availability of tools that assist understanding and comparison of qualifications.

The authors of this paper genuinely hope, that the information and recommendations included in this paper will trigger a discussion at policy levels and generate a policy response related to the use of Open Badges in education and for employment. This Discussion Paper (Output 5, Activity 1) is followed by the White Paper (Output 5, Activity 2) in the next step of the policy recommendation efforts in the Open Badge Network project.
References

Badge Alliance Endorsement Working Group (2014). Badge Endorsement: Getting Started. Retrieved from: https://docs.google.com/document/d/1VVf19d72KmGm1ywrLe7HCKEOqGSI0WjwGN_8Q2M4


Casilli, C., and E. Knight. 2012. 7 things you should know about badges. EDUCAUSE. http://www.educause.edu/library/resources/7-things-you-should-know-about-badges


Appendix - Online Survey “Policy Recommendations for Open Badges”

Link to Online-Survey:
https://docs.google.com/forms/d/1WajMEp7gLNzy6R3up32Ln1rUkZQ4gTMdgOUt6iTZc

The Policy Online-Survey is also available as PDF.

Structure and items of the survey:

Policy Recommendations Survey for Open Badges (Erasmus+/Open Badge Network)

Policy Recommendations Survey for Open Badges Erasmus+ Open Badge Network

For further information about the Open Badge Network project please visit:
http://www.openbadgenetwork.com/

Aims and background of this survey

This online survey focuses on policy recommendations for Open Badges as digital micro-credentials and is part of the Erasmus+ strategic partnership called Open Badge Network. We are looking for responses from policy makers on both national and international level from policy-making organisations in education and employment. By filling out this survey you are helping us to collect policy recommendations for establishing Open Badges as an instrument of digital recognition of skills and achievements, especially those acquired in non-formal and informal learning settings, in Europe and beyond.

Please plan approx. 3045 minutes to fill out this survey.

Thank you for your support!

 Disclaimer

Your response to the survey is voluntary and will be used only for the purpose of the Open Badge Network Project, i.e. writing a policy recommendations paper informing policy makers and Open Badge users. Please do not forward this survey without informing the Open Badge Network project as we are asking only a few selected stakeholders to ensure the quality of the responses. Please contribute to the effectiveness of this survey by responding only once.

1. Introduction

The Open Badge Network (OBN) is an Erasmus + strategic partnership which brings together organisations from across Europe to support the development of an Open Badge ecosystem, promoting the use of Open Badges as digital micro-credentials to recognise non-formal and informal learning. Our project aims to provide a trusted source of independent information, tools and informed practice to support people who are interested in creating, issuing and earning badges across Europe.

Open Badges is an open standard that allows all a full range of competencies (including hard and soft skills, practical and theoretical knowledge, personal, social and methodological abilities, learning outcomes and achievements) to be recognised and shared across the web in the form of digital micro-credentials with embedded metadata. Schools, universities, employers and informal learning providers globally are using Open Badges to capture life long learning which would normally remain unrecognised.

To find out more about Open Badges please visit:
2. General information

2.1 Would you like to receive an email with the summary of the survey results? If yes, please give us your contact details (optional):

Disclaimer: Your contact details will be treated confidentially and will not be disclosed to third parties.

• Your first and last name
• Your organisation's name and address:
• Your position/function:
• Your email:

2.2 Which category best describes your organisation? Multiple answers are allowed. *

• Governmental organisation
• Non-governmental organisation
• Non-for-Profit organisation
• Scientific / research organisation
• Educational organisation
• Employment organisation
• Registered association
• Voluntary association
• Working group
• Special Interest Group
• Other:

2.3 What is the activity/influence level of your organisation? *

• communal / municipal
• national
• regional
• European
• sectoral
• global
• other:

3. Recognition of competencies

What is your view on the recognition of competencies in your country/region? Please answer from the perspective of your organisation and its activity level (e.g. regional, national, European etc.) as specified in question 2.3 above. Please specify using the scale from 1 "very good" to 6 "very poor" and provide a comment, so we can understand better.
3.1 How effective is the recognition of competencies ... *
... in formal settings?
... in non-formal settings?
... in informal settings?
Please write a short comment:

3.2 What types of competencies deserve more attention, e.g. for employment, career etc.?

3.3 What are the key instruments/methods for the recognition of competencies in your area/region?

4. Open Badges as Digital Micro-Credentials

Open Badges can be defined as follows:
“A digital badge is an online representation of a skill (or competency) you’ve earned. Open Badges take that concept one step further, and allows you to verify your skills (competencies), interests and achievements through credible organizations and attaches that information to the badge image file, hard-coding the metadata for future access and review. Because the system is based on an open standard, earners can combine multiple badges from different issuers to tell the complete story of their achievements — both online and off. Badges can be displayed wherever earners want them on the web, and share them for employment, education or lifelong learning”. (Badge Alliance)

Please answer the following questions in relation to Open Badges. Thank you!

4.1 How aware are you of Open Badges? *
• I am not aware of Open Badges at all.
• I am somewhat aware of Open Badges but I am not sure how they can be used.
• I am well aware of Open Badges and know how they can be used.
• Other:

4.2 Which features of Open Badges as digital micro-credentials would you consider important for the recognition of competencies?
Please check the features which you consider important / unimportant.

12. Open Badges are ... *
• Open Source (community-developed)
• Cost free (no fee)
• Interoperable (technical standard)
• Granular (level of recognition)
• Verifiable (embedded metadata)
• Flexible (linking elements)
• User owned (own repository)
• Distributed (no regulations)
• Trackable (big data)
• Shareable (digital media)
• Aligned to competencies (e.g. EQF, ECVET, ESCO)
• Global (ecosystem across borders)

4.3 What features of Open Badges would need to be changed/adjusted in order to enhance their wider use as digital instruments of competency recognition?

Please write a comment:

4.4 What statistical data collected with Open Badges would be of interest? *

Please choose the options which you think are relevant for policy making:
• Data related to the types of competencies recognised with Open Badges
• Data related to organisations issuing Open Badges
• Data related to the geographic distribution, e.g. what countries issue most badges
• Data related to the earners / receivers of Open Badges
• Other:

4.5 What do you think about the potential of Open Badges? *

Please answer with “Yes” or “No”
• Do you think Open Badges could be used as (parts of) digital representations of diploma’s or certificates?
• Do you think that digital CVs and/or ePortfolios with integrated Open Badges could be helpful for job applications?
• Do you think that employers in the future could search for candidates based on their Open Badges they display on websites like LinkedIn or Facebook?
• Do you think Open Badges can be helpful instruments for recognition and/or accreditation of prior learning?
• Do you think Open Badges could help recognise learning of groups at risks, including refugees?

4.6 Where would you see the position of Open Badges in the formal, non-formal and informal education?

Please write a comment:

4.7 What organisations/persons could be interested in exploring the possibilities of Open Badges?

Please give us contact details if possible.

5. Recommendations

5.1 What additional considerations may be important/relevant for establishing Open Badges as instruments for the recognition of competencies in Europe and beyond?

Please write a comment:

5.2 How could Open Badge Network support your organisation establish Open Badges?

Please write a comment:
5.3 Would you recommend Open Badges to other organisations?

- Yes
- No
- I don’t know

Thank you!
Thank you for your support! You are more than welcome to become a member of Open Badge Network and/or share the link to our portal with interested individuals and organisations! Open Badge Network: [http://www.openbadgenetwork.com](http://www.openbadgenetwork.com)

Open Badge Network / Erasmus + / Strategic Partnership