

The IDB Digital Credential Framework: Principles and Guidelines for Creating and Issuing Credentials

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2023

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The IDB Digital Credential Framework: Principles and Guidelines for Creating and Issuing Credentials

Stella C. S. Porto* Don Present†

Abstract

Digital credentials have emerged as an integral aspect of various capacity building opportunities offered by IDB, gaining widespread recognition among both internal and external clients, despite their innovative application in the region. As of January 2023, IDB has issued over 200,000 badges, with the majority awarded in the past two years. The IDB Digital Credential Framework serves as a vital reference tool and roadmap for acknowledging knowledge acquisition and continuous learning through digital credentials within the IDB Group, partner organizations, and citizens of the Latin America and Caribbean (LAC) region. This Technical Note outlines the Framework's context and purpose, its alignment with BIDAcademy and the IDB Group, and its potential to influence and shape international practice for digital credentials beyond traditional academic recognition.

Key words: Open badges; digital credentials; recognition; framework; capacity building

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Abbreviations and acronyms

AACRAO	American Association of Collegiate Registrars and Admissions Officers
ASTM	American Society for Testing and Materials
BC	British Columbia
BID	Banco Interamericano de Desarrollo
CAYG	Credential As You Go
CICan	Colleges and Institutes of Canada
CIS	Critical Information Summary
DCI	Digital Credentials Institute
DESE	Australian Government Department of Education, Skills and Employment
DID	Decentralized Identifiers
ECTS	European Credit Transfer and Accumulation System
EHEA	European Higher Education Area
IDB	Inter-American Development Bank
INGO	International Non-Governmental Organization
ISCED	International Standard Classification of Education
ISO	International Standards Organization
KPU	Kwantlen Polytechnic University
LAC	Latin America and Caribbean
LMI	Labor Market Information
MAEST	Ministry of Advanced Education and Skills
MOOC	Massive Open Online Course
MQA	Malaysian Qualifications Agency
NZQA	New Zealand Qualifications Authority
OBF	Open Badge Factory
OER	Open Educational Resources
PDF	Portable Document Format
PLA	Prior Learning Assessment
RPL	Recognition of Prior Learning
SDG	Sustainable Development Goals
UE	European Union
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
VC	Verifiable Credentials

Introduction

Since 2018, digital credentials (using the Open Badges specification) have become a streamlined component of courses and other learning opportunities such as workshops and webinars offered by IDB (Porto et. al, 2022). Its value is recognized by our internal and external clients, despite the innovative nature of its use in the region. The success of open badges depends on their adoption by various stakeholders within the ecosystem: issuers, earners, and consumers. Therefore, it is essential that IDB place strategic effort in bringing other players along. One important step in implementing such a strategy is to establish clear principles and guidelines for creating and issuing credentials.

The IDB Digital Credential Framework (the Framework) is the key reference tool and roadmap to recognize knowledge building and continuous learning with digital credentials for the IDB Group, partner organizations and citizens of the Latin America and Caribbean (LAC) region.

This Technical note provides the context and purpose of the Framework. Its alignment with BIDAcademy and the IDB Group, and how it can align and shape international practice for digital credentials beyond academic recognition. We start with a brief literature review of other published work that served as the basis for the Framework, we describe the structure of framework, its governance and finally some aspects regarding its sustainability.

1. About credenciales BID

IDB enjoys strong recognition as a provider of learning opportunities in the field of social and economic development in the LAC region. Its large portfolio includes offerings in various modalities such as instructor-led courses, OERs and MOOCs, using multiple online learning platforms. It also offers a wide range of events, including webinars, hackathons, and workshops.

IDB understands that workforce qualification has a significant impact both on increasing organizations' productivity and enhancing an individual's employability. Investment in workforce development through initiatives implemented by governments, education providers, and employers has a widespread effect on economic and social improvement.

The acquisition of new skills and knowledge does not and should not result solely from formal degrees, usually offered through the traditional higher education landscape. Many of the sought-after skills, abilities, and knowledge are beyond what is available through traditional long-term degrees reflected on the traditional transcript. The lifelong learning approach is now a well-recognized economic imperative. Changes in the job market due to technological advances, and lengthier career spans, are pushing low- and high-skilled workers to acquire continuous re-training and learning to remain relevant. Such changes have also placed organizations in high demand for such a reshaped workforce. The conventional practice of obtaining a college degree at the beginning of one's career no longer addresses the need for continuous skill acquisition. Furthermore, while vocational training effectively imparts job-specific skills, these skills will also require multiple updates throughout a career that spans decades (Diaz et. al, 2022).

There is an ongoing movement to find new ways for individuals to gain and share the knowledge, skills, competencies, and achievements they need to adapt to such changes and stand out in the labor market. This movement is based on the design and adoption by the

various stakeholders of what is frequently called alternative credentials. These alternative credentials become another avenue for people to demonstrate to employers that they have the talent that's required to make them successful in an evolving labor market. These alternative credentials represent a new path for individuals to be able to demonstrate their competencies and skills. From a market perspective, this gives rise to a new postsecondary learning ecosystem, where colleges and universities might still be the primary providers, but where workplace-based learning and other organizations, such as professional associations, are increasingly playing a significant role. Research demonstrates that countries excelling in the development of curricula that align with market-demanded competencies offer diverse learning opportunities. These include on-the-job training, classroom-based education, long courses, and short modular courses, all designed to help individuals acquire the necessary knowledge, attitudes, and behaviors.

Innovative organizations are taking notice of the existence of a fractured credentials landscape. There are efforts underway to organize alternative credential systems in ways that integrate and connect with existing systems. This will allow non-institutional education providers to better link certifications, certificates, degrees, industry-driven qualifications, and other types of credentialing, with the existing credential ecosystem. There is a need to consolidate all training options within a more unified qualifications' framework, which establishes clear pathways for progression between levels of qualification. This includes both academic and vocational routes, as well as training before entering the labor market and throughout an individual's working life. It is important to note that while some of these alternative credentials may not be accredited in the traditional sense, many are recognized by employers as legitimate indicators with labor market value. Additionally, it is crucial to establish mechanisms for recognizing and certifying skills acquired informally in the workplace.

It is in this landscape that Open Badges gain prominence. Open Badges is the renowned international standard for digital badges, which can be summarized as a visual online representation of achievement or mastery of skill(s), ability(ies), and/or competency(ies). Digital badges have the capacity to transform the way academic accomplishments are shared. The main value of the digital badge is as a digitally connected way of demonstrating one really has a credential. Unlike conventional credentials, digital badges can contain specific claims and detailed web-enabled evidence supporting those claims, and this information can circulate freely on the Internet. The amount of possible information provided makes it an instantaneous validation, beyond conventional transcripts, since these are limited in scope.

Embracing the potential of badges gives IDB greater penetration and visibility as an issuer of credentials. It opens the potential of designing programs using stackable badges issued via various courses that compose its portfolio of learning opportunities. It creates a framework that allows IDB to partner with other institutions, creating flexible paths of learning that are recognized and can potentially translate into credits for further professional development. Furthermore, it also places IDB as a pioneer in LAC by adopting innovative credentialing systems, pushing the region to embrace less traditional approaches to learning, which are meaningful in a world where lifelong learning is key, and the job market is in constant flux. IDB can serve as an agent for modernization, through the use and promotion of such alternative credentials, stimulating and supporting the adoption of standards, practices, and policies that

serve as pillars of the digital economy. Such a role places IDB as a potential critical catalyst of an innovative approach in the cross-sector realm of labor markets, education, and technology-based innovation.

Since 2018, digital badges have become a streamlined component of courses and other learning opportunities such as workshops and webinars offered by IDB (Porto et. al, 2022). Its value is recognized by our internal and external clients, despite the innovative nature of its use in the region.

As of January 2023, IDB has issued more than 200 thousand badges, the bulk of this effort in the last two years alone. This confirms that we have surpassed our expectations when it comes to becoming a robust and reliable issuer of digital credentials. IDB has clearly made some inroads in serving as a springboard to other partners in the public sector, as well as with universities in the region.

In 2021, we chose to change our badging solution provider to Open Badge Factory (OBF). This new home represented a change in paradigm, with a variety of new features that opened many new avenues for the IDB credential ecosystem (Porto, 2022). In a nutshell, this platform gave rise to the potential of building a community of IDB credential earners. Instead of having badges isolated in individual's personal badge collections, this new space puts badges in action. Any open badge can be shared through social networks. Badges become connectors between earners and other professionals and become a tool for engaging with learners, providing other opportunities for learning, and getting competencies and skills recognized explicitly. With this new model, CredencialesBID is born as a triad of three components:

- CredencialesBID Factory is responsible for creating and issuing badges,
- CredencialesBID Passport serves as the host of users' digital credentials issued by IDB and
- CredencialesBID Services supports various stakeholders, including helping users manage their credentials, supporting IDB partners in creating new credentials, and issuing existing credentials.

2. Why an IDB Digital Credential Framework?

An environmental scan of relevant activity in the international multilateral sector was completed as part of the work in developing the IDB's framework and is summarized later in the document. It indicates that IDB is a significant early adopter in the digital credentialing space (through open badges).

This finding suggests an opportunity for IDB to consolidate its pioneering role in deploying digital credentials by more explicitly staking out a thought leadership space for non-formal credentials and lifelong professional learning for international development.

The success of open badges depends on their adoption by various stakeholders within the ecosystem: issuers, earners, and consumers. Therefore, it is essential that IDB place strategic effort in bringing other players along. One important step in implementing such a strategy is to establish clear principles and guidelines for creating and issuing credentials.

The framework serves as the key reference tool and roadmap to recognize knowledge-building and continuous learning with digital credentials for all stakeholders. It defines requirements and standards for quality metadata, according to different types of badges. In doing so, it refactors the evolving badge taxonomy and recognition practices, providing the same time consistency and flexibility. A solid framework is able to guide the design and development of digital credentials that are understood and valued by users. It helps partners decide what type of badge to issue, and for what purpose.

An IDB Digital Credential Framework supports the goal of establishing IDB as a “beacon” for digital credentials in LAC and serves as a roadmap for regional adoption. As a beacon of open badges, IDB through BIDAcademy must stake a flag of its prominence in the field, shed light on a sustainable and effective roadmap towards success, while providing scaffolding opportunities for partners

The framework serves to communicate the value of such credentials according to their role and/or function and is a manifest of principles that are aligned with the vision and mission of BIDAcademy.

IDB’s Digital Credential Framework establishes the pillars to achieve the following outcomes:

- Expand the adoption of micro-credentials and other alternative digital credentials in the region, in support of upskilling and reskilling challenges as a result of digital transformation, especially for underrepresented groups and minorities.
- Profile IDB as a thought leader for learning and development in its sector, working with partners in bilateral and multilateral organizations to increase the value and scalability of micro-credentials in the sector.
- Consolidate trust in the authentic quality and usefulness of IDB credentials.
- Increase the acceptance and perceived value of IDB credentials by business and public sector leaders – key consumers of micro-credentials.
- Increase the engagement of learners in earning and harnessing these credentials for lifelong professional learning and career advancement.
- Increase the non-formal recognition and impact of IDB credentials for a diverse group of learners, including youth and those in career transition phases.
- Develop the “currency value” of IDB credentials for recognition in new non-formal contexts or even the formal awarding of academic credit using “Recognition of Prior Learning” (RPL) protocols (also known as Prior Learning Assessment or PLA).
- Establish and sustain a culture of learning within IDB personnel through recognition of shared knowledge and skills.
- Raise awareness of internal managers of the engagement role of open badges for IDB personnel and new talent in the region.

3. Situating the framework in effective global practices

The Framework project was a collaboration between IDB and Learning Agents, an international consultancy firm in Canada. The project team deliberately situated the IDB Framework within an international context of values, goals, standards, and effective practices in order to make connections to global issues important to the Bank and to provide more traction for its adoption.

Most current credential frameworks are written by academic institutions about micro-credentials and pay lots of attention to institutional concerns, such as academic credit and accreditation.

Our Framework touches on these issues, but goes further to include the following:

- International Development: building on our established public support for the United Nations Sustainable Development Goals (SDGs) and the Principles for Digital Development (Digital Impact Alliance, n.d.).
- Professional and industry standards: such as the International Standards Organization, not only for credentialing (ISO, 2012) but also for other domains, such as corporate social responsibility (ISO, 2010).
- Broader values and practices: such as those for equitable lifelong learning and recognition promoted by the United Nations and other international bodies.
- Technology standards: such as the Open Badges specification, which has had a profoundly disruptive impact on the world of digital credentials since its introduction in 2011 and whose affordances such as alignment, evidence, and endorsement help guide effective recognition practices.

We examined a representative sample of these frameworks and standards for similarities and differences and to see how they could be adapted to the Bank's needs as a non-accredited multilateral knowledge creator and learning provider in the region, including the following publications:

AACRAO. (2022). The American Association of Collegiate Registrars and Admissions Officers in a recent advisory report, "Alternative Credentials: Considerations, Guidance, and Best Practices", openly acknowledges the contribution of Open Badges. This report has been used as a source for the Critical Information Summary section of the Framework.

ASTM. (2018). The American Society for Testing and Materials (ASTM) International has published an industry standard for course certificates, "E2659-18 Standard Practice for Certificate Programs". It helps balance the academic perspective common from various other frameworks. This has been used as a source for requirements of Assessment badge type.

CICan (n.d.). Colleges and Institutes of Canada (CICan) has published a "National framework for microcredentials" that serves as a high-level framework for colleges and institutes (not universities), largely based on Oliver (2019).

CAYG (2021). Credential As You Go (CAYG) published its "Incremental Credentialing Model and Framework" serving as a recognition framework for 'Prior and (Current/Future) External Learning', which spans academic and industry needs. It currently provides the foundation for a

multi-state funded initiative currently underway in the US funded by Lumina Foundation and others.

Council of the European Union (EU). (2022). The publication entitled “Proposal for a Council Recommendation on a European approach to micro-credentials for lifelong learning and employability”, submitted in May 2022, based on several other papers, Shapiro (2021) and Orr et al (2020), was adopted 2022-06-22 by the Council of the European Union (EU). The document contains several useful definitions and principles and includes a set of standard mandatory and recommended elements to describe a micro-credential. It is used as a source for the Critical Information Summary.

Australian Government Department of Education, Skills and Employment (DESE) (2022). The Australian National Microcredentials Framework establishes a national definition for micro-credentials, a collection of unifying principles and a list of required and recommended Critical Information Requirements to set a minimum standard for micro-credentials. It has been used as a source for the IDB Framework Critical Information Summary section.

eCampusOntario. (2020). The publication “Micro-credential Principles and Framework” is Version 2 of a high-level infographic that has been leading the way toward a working micro-credential framework in Canada. This has informed the approach to the Framework’s Manifesto section and other overarching principles.

International Organization for Standardization (ISO) (2012). The “ISO/IEC 17024:2012 Conformity assessment — General requirements for bodies operating certification of persons” document is the dominant industry standard for defining certified professionals. It served as a key source for the Performance badge type.

Kwantlen Polytechnic University (KPU) (2021). This small Canadian University, known as KPU, has published two important documents, namely “Micro-credentials Policy AC15” and “Micro-credentials Procedure”. The policy document is provided as a representative example of the binary classification of micro-credentials and “digital badges” and is also notable for its mention of Open Badges.

Malaysian Qualifications Agency (MQA) (2020). The “Guidelines to Good Practices: Micro-credentials” is a standard academic approach to digital credentials. It is included here as an alternative perspective beyond North America and Europe.

McGreal, R., Olcott, D. (2022) In the paper “A strategic reset: micro-credentials for higher education leaders” McGreal and Olcott provide a balanced perspective and a list of “Micro-Credential Information and Validation Elements”. It is used as a source for the Critical Information Summary.

MICROBOL (2022). This is a Common Framework for Micro-credentials in the European Higher Education Area (EHEA), entitled “European project MICROBOL: Micro-credentials linked to the Bologna Key Commitments”. This funded work product was an input to the current EU micro-credential framework. It applies the Bologna key commitments to micro-credentials, as it

focuses on Quality Assurance, Recognition and Qualifications Framework and ECTS. (ECTS is the European Credit Transfer and Accumulation System.)

Ministry of Advanced Education and Skills Training (MAEST) (2021). British Columbia (BC) is a large Canadian province. The framework published as “Micro-Credential Framework for B.C.’s Public Post-Secondary Education System” was produced as a living document to be improved by further research and discussion. This document has been used for items such as its definition of stacking and laddering.

New Zealand Qualifications Authority (NZQA) (2020). The publication “Guidelines for applying for approval of a training scheme or a micro-credential” is an early national framework cited by many as a way forward. It is now less useful compared to other sources, such as Australia and Europe.

Oliver, B. (2019). The publication “Making micro-credentials work for learners, employers and providers” is a seminal work in micro-credentials. It is most notable for its introduction of the concept of the Critical Information Summary.

Saskatchewan (2021). The “Saskatchewan's Guide to Micro-Credentials” is a framework for a small Canadian province. It is included largely for its typical representation of post-secondary institutions partnering with the private sector on training programs with the support of government. It is notable for its reference to stewardship of credentials by the issuer and for explicitly including government as a stakeholder.

Voigt, L. (2020). The publication “Higher Education Digital Badge Taxonomy” comes from Digital Credentials Institute (DCI)/Madison College. This is a small technical college in the US that has developed a “digital badge” consultancy for other institutions. This blog post includes a useful infographic for categorizing different types of digital credentials based on the presence or absence of assessment.

4. Common dimensions of frameworks and standards

In the development of our Framework, we considered various dimensions from existing frameworks and standards related to open badges, open recognition, microcredentials, and more. Below is an overview of the dimensions that informed our framework:

1. **Framing Principles:** We looked at a range of principles, including Europe's Bologna commitments (quality assurance, recognition, and qualification frameworks) and the European Credit Transfer and Accumulation System (ECTS), as well as Credential As You Go's Cornerstones, which focus on equity, value, and forward relevance.
2. **Definitions and Terminology:** We found that many frameworks use their own definitions and terms, which helped us develop a comprehensive glossary for the Framework.
3. **Learner Ownership and Control:** We observed that some frameworks lacked clarity on learner control and ownership, while others emphasized self-sovereignty. Our framework aligns with the Open Badge standard, which is learner-centric but allows issuers to revoke credentials.

4. Issuing Body/Provider: The Framework acknowledges that credentials can be issued by various organizations. Currently, IDB serves as the single issuer of record within the CredencialesBID ecosystem, but other issuers may emerge in the future.
5. Workplace Relevance: We found that some frameworks, such as CICan (n.d.) and eCampusOntario (2020), emphasize industry relevance and employer engagement, while others are more focused on lifelong learning and addressing diverse needs.
6. Alignment to Standards and Competency Frameworks: While most frameworks mention skills and competencies, few discuss aligning with shared frameworks for better transferability. The Framework anticipates this as a growing trend.
7. Collaboration and Partnership: Many microcredential frameworks encourage partnerships with employers, industry sectors, and other stakeholders. The Framework supports developing cross-sector partnerships, with IDB often playing a leading role.
8. Formality: Microcredentials can be for credit or non-credit, but all frameworks agree they should be awarded based on summative assessment. The Framework also considers other types of badges, such as those for participation in non-credit events.
9. Credential Taxonomy: The Framework differentiates between microcredentials and other types of digital badges, considering factors such as assessment, knowledge, skills, and abilities.
10. Transparency and Comprehensiveness: In response to concerns about microcredential quality and evaluation, the Framework incorporates a "Critical Information Summary" or "content manifest" to facilitate easier evaluation and comparison.
11. Topic and Knowledge Domain: Some frameworks suggest categorizing credentials by industry sector or International Standard Classification of Education (ISCED) fields.
12. Learning Objectives/Outcomes/Competencies: Most frameworks include these elements, though they often conflate the three. The Framework clarifies these concepts, drawing from sources such as the European credit system.
13. Learning Experience/Setting: The Framework considers diverse learning settings, including formal, non-formal, and informal learning environments.
14. Assessment: All microcredential frameworks specify assessment, typically requiring summative assessment. The Framework details the approach to assessment for each badge type.
15. Evidence of Achievement: The Framework allows for a wide range of evidence, with the option to add primary evidence at the learner's discretion.
16. Volume of Learning: The Framework uses the Australian Qualification Framework's definition of "Volume of Learning" (DESE, 2020) as a basis for comparison between credentials.
17. Level of Learning: The Framework refers to existing qualification frameworks and levels of competence, with CredencialesBID developing its own model.

18. Verifiability and Integrity: The Framework emphasizes the importance of credential integrity and verifiability, relying on the [Open Badges specification](#) for verification.
19. Recognition of Prior/External Learning: The Framework acknowledges the importance of recognizing prior and experiential learning.

5. Framework overview

Based on the analysis above and further reflection on our learning and recognition experience since 2018, we have developed the IDB Digital Credential Framework to rationalize and codify our credentialing practice. It combines best-of-breed practices across sectors and around the world, filters them through our experience, and applies them to our international development context.

On a high level, the [Framework](#) consists of a Manifesto or statement of principles, a flexible badge taxonomy and a list of detailed descriptions of the various components of the framework, such as assessment and levels of expertise.

In what follows, we briefly discuss some of the most important aspects of the Framework, spending less time on operational issues, and rather focusing on the foundational aspects of the Framework. The details of the document are better read by consulting the [Framework](#) directly.

The [Framework](#) will not exist on its own; it will be supported by a system of internal and external governance, and an established set of procedures and workflows that are guided by tools and templates.

5.1. Manifesto: our guiding principles and goals

We have assembled a comprehensive set of guiding principles and objectives from multiple sources, which we have named our Manifesto. Our mission and core values originate from published Inter-American Development Bank (IDB) documents and are in harmony with the Second Update to the Institutional Strategy (IDB, 2019). These values emphasize the importance of aligning our efforts with established institutional strategies to ensure effective progress.

Economic development and social responsibility in our Manifesto are influenced by two key sources: the Principles for Digital Development (Digital Impact Alliance, n.d.) and the International Organization for Standardization (ISO) Recommendations for Social Responsibility (ISO, 2010). The Principles for Digital Development, endorsed by IDB, provide a framework for leveraging technology to enhance development outcomes. The ISO Recommendations for Social Responsibility offer guidelines for organizations to balance their economic, social, and environmental responsibilities.

Our goals within the Manifesto are centered on three main areas: self-empowerment, open learning in communities, and the continuous improvement of positive outcomes for the region. By promoting self-empowerment, we encourage individuals to take ownership of their personal and professional growth. Open learning in communities, including communities of practice, fosters collaborative learning environments where individuals can share knowledge and expertise. The continuous improvement of positive outcomes for the region ensures that our efforts contribute to the overall well-being and development of the communities we serve.

Finally, our learning and recognition principles are designed to support the same openness and empowerment at all levels: individual, organization, community, and region. By implementing these principles, we strive to create inclusive, accessible, and equitable learning opportunities that empower individuals and communities to achieve their full potential.

5.2. Framing elements

We commence the detailed elaboration of the Framework by introducing what we term "Framing elements." These fundamental concepts serve as the bedrock that connects the principles of the Manifesto to IDB's approach to digital credentials within the Framework. By integrating these core elements, we aim to provide a comprehensive and cohesive foundation that guides the development, implementation, and continuous improvement of IDB's digital credentialing initiatives. This approach ensures that our credentialing ecosystem remains aligned with our mission, values, and strategic goals, while fostering innovation and adaptability to address the evolving needs of learners, employers, and educational institutions.

5.2.1. Definitions and terminology

IDB digital credentials are based on the Open Badges standard. In this framework, the term badge will be used interchangeably with credential. The terminology used in this document is drawn from multiple international sources, and a Glossary is provided for greater clarity. There is a significant focus in the literature on micro-credentials, with little mention of Open Badges. This is due to most academics researching and writing on the topic from their institutional perspective, leading to confusing and conflicting definitions for key terms such as micro-credential, digital badge, and evidence. IDB needed to provide a foundation for the Framework to address these issues.

5.2.2. Formality, context, and purpose

BIDAcademy supports the Open Badges standard for portable digital credentials because of its flexible scope for recognizing skills and achievements, as well as the global acceptance of the standard. BIDAcademy believes that an inclusive understanding of digital credentials based on Open Badges can support a flexible continuum of recognition, from more formal micro-credentials as defined by UNESCO to less formal credentials whose criteria will vary widely according to context. The IDB credential taxonomy is designed and continuously improved to reflect a broad range of recognition and fitness for purpose and context. The literature often focuses too much on micro-credentials and binary approaches to formal/informal learning, with little understanding of the affordances of Open Badges that enable a broader spectrum of recognition of learning and achievement in the IDB ecosystem. Notable exceptions include AACRAO (2022) and KPU (2021).

5.2.3. Stewardship and control

BIDAcademy will maintain stewardship of the digital credentials issued by IDB and may revoke issued credentials on occasion for justifiable cause. Recipients of IDB credentials will have free access to the credentials they have been issued and full control over their display, curation, sharing, and dissemination in wallets, backpacks, passports, and portfolios of their choice. Many frameworks assert learner "ownership" - incorrectly, in our opinion, if these credentials can be revoked by the issuer. More important is the notion of access to and control over the sharing of the credential for the recipient, ideally with no intermediaries and at no additional cost.

5.2.4. Verifiability and integrity

Open Badges are verifiable documents whose verifiability can optionally be enhanced through methods and technologies such as blockchain transactions and protocols for supervision of assessment and verification of identity. Current CredencialesBID practice does not normally include these verification methods, but they may be used if specific situations warrant their deployment. CredencialesBID's continued alignment with the Open Badges standard as it evolves to version 3.0 will drive the adoption of Decentralized Identifiers (DIDs) and Verifiable Credentials as default verification tools. The Framework will be updated to reflect IDB's verification policies and procedures. IDB does not currently align with the academic institution-centric focus on "bullet-proof" authentication of microcredentials, because its international development use cases usually have little to do with diplomas. IDB credentials are typically much smaller than diplomas and often far less formal. For IDB, stacking is typically not for larger academic credentials, but for recognition of aggregated achievements in the development sector by an employer or association. W3C's Verifiable Credentials standard will be incorporated into the Open Badges 3.0 standard, whose release is anticipated in mid-2023.

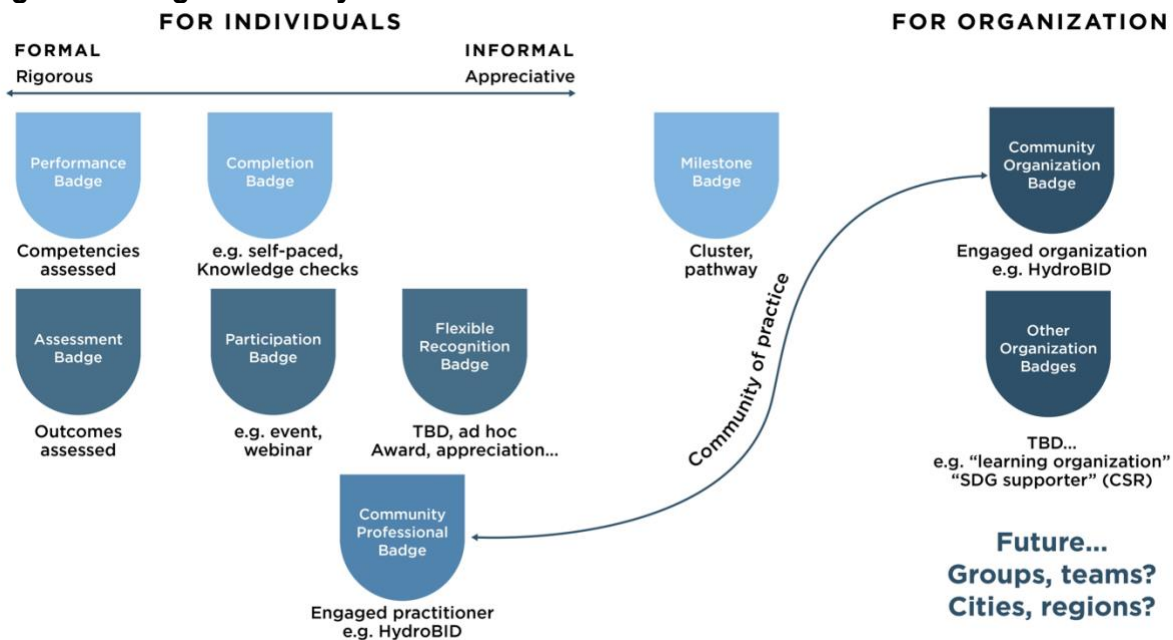
5.2.5. Transparency and clarity

IDB credentials will clearly communicate how they meet the criteria of the Framework, using appropriate content, supporting evidence, and visual design. The Framework is a response to calls for clarity around digital credentials. IDB does not mandate a tightly controlled visual style, preferring to encourage individuality among its partners. However, it does oversee a set of structured content templates that are aligned with its taxonomy, reducing confusion and variation, and making quality more transparent. By adhering to these guidelines, IDB ensures that its digital credentials maintain a high level of transparency and clarity for all stakeholders, including learners, employers, and educational institutions. This approach fosters trust in the credentialing ecosystem and supports the continuous improvement of recognition and validation processes.

5.3. Badge taxonomy

Establishing a transparent taxonomy of badge types is essential for IDB badges, as it acknowledges a range of formality and accommodates various contexts. While some might categorize the more formal IDB badges as micro-credentials, we refrain from using this term to prevent perpetuating a binary credential mindset, such as micro-credentials/badges, credit/non-credit, high value/low value, and so on. Instead, we advocate for a continuous spectrum that enables greater contextual adaptability and potential for expansion. All these badges can be suitably tailored to serve distinct purposes and objectives.

Figure 1. Badge taxonomy



Source: compiled by the authors

The current taxonomy includes two sets of credential categories: one for individuals and another for organizations.

5.3.1. Credentials for Individuals:

- **Performance badges** are based on a robust learning experience and summative assessment of the knowledge, skills, and/or competencies required for competent performance of an occupational or professional role or a cluster of work-related tasks and responsibilities. Other organizations might term this a certification and classify it as a micro-credential.
- **Assessment badges** are typically based on courses or programs that ensure the learners' achievement of the intended learning outcomes of the course or program. They should only recognize learners who meet the performance, proficiency or passing standard, based on rigorous summative assessment. Other organizations might term this a certificate or a microcredential.
- **Completion badges** are awarded for courses and other learning experiences with structured learning objectives, such as introductory and compliance courses, where the assessment is less rigorous and more formative, such as "knowledge checks" that allow many attempts at the same questions.
- **Participation badges** recognize participation in a course or learning event (e.g. webinar or workshop) that may include discussion and interactivity but does not feature a rigorous summative assessment.

- **Milestone badges** recognize learning pathways and aggregated collections of other badges.
- **Flexible recognition** badges are intended to support emergent and customizable ways to recognize a wide variety of achievements, such as (not an exhaustive list):
 - Specific achievements that have an impact in IDB or the region.
 - Experience in events, projects, missions, or years of experience.
 - Service to a community, educational, professional, or other, in ways not covered by the Community Professional badge above. Typically voluntary, this can be provided in an event, throughout a project, or over time (e.g., “lifetime service”).
 - Expertise informally recognized within a community, not a formal certification, e.g., “Guru”.
 - Awards for specific competitions or lifetime achievement.
 - Quests or other special achievements; informal recognition beyond simple participation (e.g., makerspace/bootcamp achievement).

The specific details of the badge can be defined at the time of issue, for ad hoc and emergent forms of recognition. This emergent recognition can later evolve into more permanent forms.

5.3.2. Credentials for Organizations:

- **Community Organization badges** recognize organizations (or groups or communities) as distinct actors who, in collaboration with other organizations, engage in community of practice activities and achievements toward socio-economic policy goals that are important to IDB and the LAC region, such as the United Nations Sustainable Development Goals. These activities can include the formation of partnerships, the development of plans and other commitments, collaborative projects and other activities, and ongoing tracking of progress and sustainable renewal.

The badges are issued to an official email address at the organization (e.g., info@organization.org), and will include evidence of the achievements being recognized. Community Organization badges may be complemented by Community Professional badges earned by individual employees of the organization.

These badges will normally be aligned to a taxonomy of collaboration types:

- **Knowledge creation**
Producing, expanding, or adapting research and knowledge products (data, publication, etc.)
- **Knowledge exchange**
Dissemination, activation via events, platforms, networks
- **Knowledge transfer and learning**
Workshops, education, training, courses, programs, Work Integrated Learning
 - Internal (staff, students)
 - External (community, global)

- **Knowledge adoption**
Implementation, application, deployment (projects, consulting, other knowledge-based services)
- **Partner Organization badges**
These badges recognize organizations that have in various ways collaborated with IDB. This is a flexible recognition badge that makes visible the achievements and learning resulting from collaboration with IDB while encouraging further projects.

5.4. Key components

We identify Key Components as those which feature most prominently in discussions about digital credentials and those which evaluators of credentials tend to examine most closely. Such components are drivers of the metadata that is included in all badge classes in CredencialesBID.

5.4.1. Relevance and alignment

IDB badges can recognize competencies and other useful learning currently relevant to the labor market. Relevance can be achieved through collaboration and other means, such as the use of relevant Labor Market Information (LMI), and validated frameworks for standards, competencies, knowledge domains, even socio-economic goals such as the UN SDGs.

Labor market relevance and alignment are particularly important for more formal badges. Less formal badges may be issued for other recognition purposes, such as community-based recognition.

5.4.2. Outcomes and competencies

More formal IDB badges will focus on recognizing knowledge, skills, attitudes, behaviors, and competencies that support effective performance and will include demonstration of actual application whenever feasible and relevant.

5.4.3. Learning experience, activities

IDB badges will clearly describe their learning experience and assessment modalities, whether online, in a classroom or in the workplace. IDB encourages its partners to think beyond training courses to include experiential and work-based learning engagements at varying levels of formality to increase the role of authentic workplace learning and recognition.

5.4.4. Levels of learning and skill

More formal badges such as Assessment badges and Performance badges may optionally align to levels of learning that may be internally formulated or externally sourced.

Internally formulated levels should reflect two things: the complexity of learning or skill being recognized, and the type of assessment used for evaluation.

5.4.5. Assessment and Evidence

IDB badges will transparently describe their approach to assessment, whether formal and summative, or informal and focused on feedback.

More formal badges will include clearly described assessment activities that are well aligned to intended learning outcomes and/or competencies, to provide confidence the learner has

achieved the requirements the appropriate level. As appropriate, direct evidence of achievement (i.e., authored by the learner) may be included in the credential.

Badge recipients may also add further evidence after receipt of the badge, as active learners and practitioners in the learning and recognition community. This capability leverages the affordances of the CredencialesBID Passport platform and supports learner control over the display, curation, sharing and dissemination of badges they receive.

5.4.6. Quality Assurance

IDB's Quality Assurance is centrally administered. Our approach to quality is pragmatic: how will requirements fit the purpose of the badge? We have already improved this process through our recently soft-launched [Badge Requirements](#) and badge template documents. These documents with their scaffolded text make it much easier for our partners to create good quality badges with less effort and has made it much easier for us to ensure the quality and consistency of IDB badges. Depending on the badge, this can include criteria of relevance, coherence, validity, outcomes-based design, assessment, volume of learning, evaluation of impact and opportunities for continuous improvement.

5.4.7. Endorsement

IDB believes that Endorsement is a vastly underemployed feature of the current Open Badges standard. We strongly encourage our partners to seek clear, authentic endorsements from third parties to build trust and add significant value to their badges.

An endorsement may be formalized as a type of accreditation by an educational, professional or industry body, or it may be a less formal type of support from a peer organization. Issuing organizations can be endorsed, specific badges they create, and even badge earners can seek further recognition through individual endorsement after receiving their badge.

5.5. Critical Information Summary

IDB has developed its own Critical Information Summary (CIS) based on the Framework, which is informed by academic examples including several mentioned in this document, but we have dropped, added, and transformed elements to better fit our broader taxonomy of badges and our largely non-academic context of multilateral international development, based on our experience and evolving practice. We have also explicitly aligned with the Open Badges standard, including its mandatory and optional fields, to leverage the affordances of Open Badges for flexible recognition.

Our Critical Information Summary is embedded in our Badge Requirements templates which have common elements but whose Criteria (what it takes to earn the badge) vary by type of badge. Each badge, which has been checked in terms of its CIS through our quality assurance process will be linked to a web version of the Framework containing Critical Information Summary. The linkage is made through the Alignment field that is in the badge metadata. This will help communicate the quality of our badges to our stakeholders and should increase their portable recognition value beyond the IDB ecosystem.


Our Critical Information summary is summarized in the diagram below. Some elements are common to all badges and others may be required, recommended or optional, depending on the type of badge.

Figure 2. Badge requirements – Critical Information Summary

Metadata for all badge types

BADGE INFORMATION
(metadata)

OPTIONAL	MANDATORY
<input type="checkbox"/> Expiry date	<input checked="" type="checkbox"/> Badge name
<input type="checkbox"/> Evidence	<input checked="" type="checkbox"/> Description
<input type="checkbox"/> Alignment	<input checked="" type="checkbox"/> Criteria
<input type="checkbox"/> Endorsement	<input checked="" type="checkbox"/> Issuer
<input type="checkbox"/> Language(s)	<input checked="" type="checkbox"/> Recipient
<input type="checkbox"/> Tags	<input checked="" type="checkbox"/> Issue Date
	<input checked="" type="checkbox"/> Badge image



	Individuals						Organizations	
Criteria	Assessment	Performance	Completion	Participation	Community Professional	Flexible Recognition	Community Organization	Partner Organization
Learning objectives /outcomes	MANDATORY	MANDATORY	MANDATORY	MANDATORY	MANDATORY "Achievement or contribution type"	MANDATORY "How this badge was earned"	MANDATORY "Achievement or contribution type"	MANDATORY "Details of partnership"
Why this is significant	N/A	N/A	N/A	N/A	N/A	OPTIONAL RECOMMENDED	N/A	N/A
Level of engagement	N/A	N/A	N/A	N/A	N/A	N/A	MANDATORY	OPTIONAL RECOMMENDED
Detailed criteria	N/A	N/A	N/A	N/A	N/A	N/A	MANDATORY	N/A
Staff participation	N/A	N/A	N/A	N/A	N/A	N/A	OPTIONAL RECOMMENDED	OPTIONAL RECOMMENDED
Sectors	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL
Level	OPTIONAL	OPTIONAL	OPTIONAL (COMPLEXITY)	N/A	N/A	N/A	N/A	N/A
Learning experience and activities	MANDATORY	OPTIONAL RECOMMENDED (e.g. custom program)	MANDATORY	MANDATORY	MANDATORY "Description of contribution"	N/A	N/A	N/A
Content / Topics	MANDATORY	OPTIONAL	OPTIONAL RECOMMENDED	OPTIONAL	N/A	N/A	N/A	N/A
Assessment description	MANDATORY	MANDATORY	MANDATORY	OPTIONAL	MANDATORY "Review"	N/A	MANDATORY "Evaluation"	MANDATORY "Evaluation"
Estimated learning effort	MANDATORY	OPTIONAL RECOMMENDED	MANDATORY	MANDATORY	OPTIONAL "Contribution effort"	N/A	OPTIONAL "Contribution effort"	OPTIONAL "Contribution effort"
Further information	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL
Badge type	MANDATORY	MANDATORY	MANDATORY	MANDATORY	MANDATORY	MANDATORY	MANDATORY	MANDATORY
Additional Criteria (addendum criteria)	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL
Alignments	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL
Endorsements	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL
Duration of validity	OPTIONAL	OPTIONAL	OPTIONAL	N/A	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL

Source: compiled by the authors

6. Governance, process, ecosystem

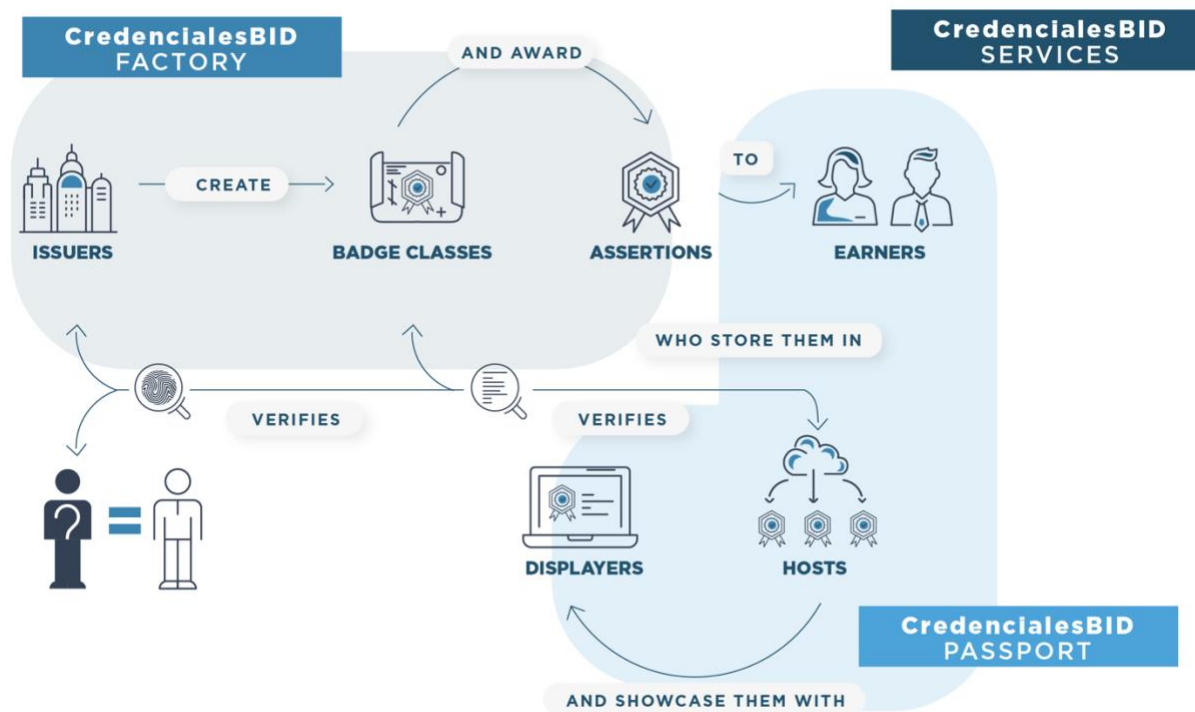
Many stakeholders are involved in the full lifecycle of a badge. The following illustration depicts such stakeholders and specifically identifies with what parts of the CredencialesBID system these stakeholders interact.

Initially, badge classes are designed, incorporating all relevant metadata such as name, description, criteria, and issuer information. Following the Open Badges standard, when a learner meets the requirements for a badge, the issuing organization awards the badge through an "assertion" that combines the identity of the issuer, the details of the badge with the learner's identity, as an individualized credential. These tasks are under the umbrella of CredencialesBID Factory.

The awarded badge is accepted by the earner and subsequently hosted on CredencialesBID Passport (a secure server), which allows the learner to display it across various online platforms, such as digital portfolios, social media, and professional networks.

To ensure authenticity and trustworthiness, an on-the-fly verification mechanism takes place, utilizing decentralized technologies. When a viewer encounters the displayed badge, they can quickly access the underlying metadata through a verification URL, which in turn, connects to the issuer's verification endpoint. The issuer's system automatically validates the badge's integrity by checking its metadata consistency, and revocation status in real time.

Figure 3. Badge issuing, earning and sharing cycle



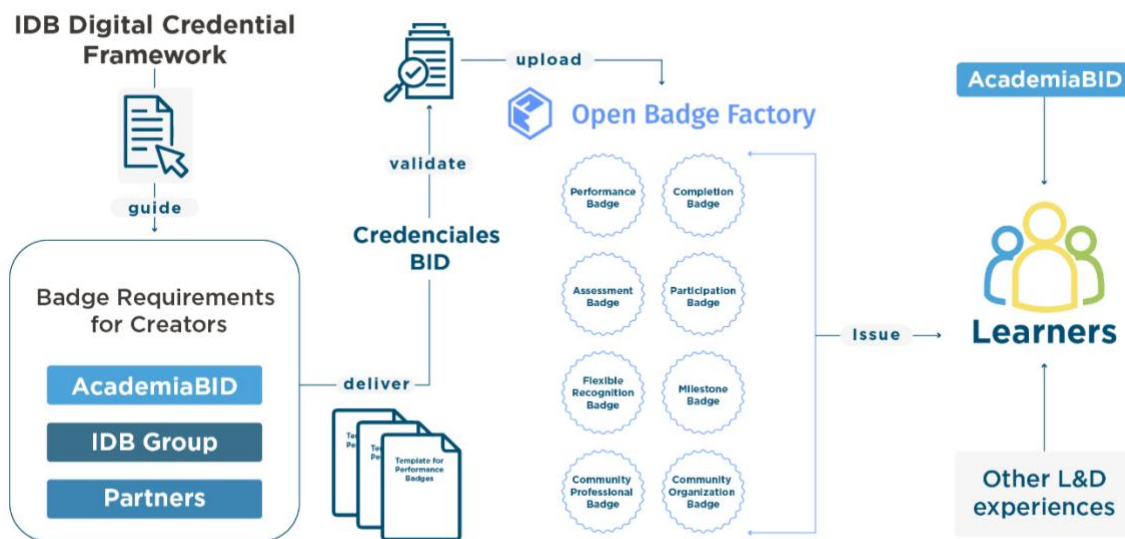
Source: This image has been adapted from [IMSGlobal](https://www.imsglobal.org/) under a Creative Commons Attribution 4.0 International License.

The following illustration depicts the creation and issuing of digital credentials in more operational terms, highlighting the role of the Framework.

The Framework, developed to support the creation and management of digital credentials, outlines a streamlined process for badge development, validation, and issuance within the IDB ecosystem and its partners. This system starts with the use of badge templates, which drive the requirements and ensure standardization across all badges created by IDB and its partners. Badge creators then submit their completed templates to the central team for validation, ensuring that they adhere to the established criteria and taxonomy.

Upon approval, the central team quickly uploads these badges into the CredencialesBID Factory, categorizing them according to the badge taxonomy. The badges are then issued to earners for completion of courses or other relevant learning and development experiences and/or achievements. Finally, learners accept and showcase their badges within the CredencialesBID Passport, a centralized platform for displaying and managing their digital credentials across various online channels. This cohesive, end-to-end system ensures a seamless and efficient process for the creation, issuance, and management of digital credentials, fostering trust and recognition within the professional and educational communities.

Figure 4. Badge creation process



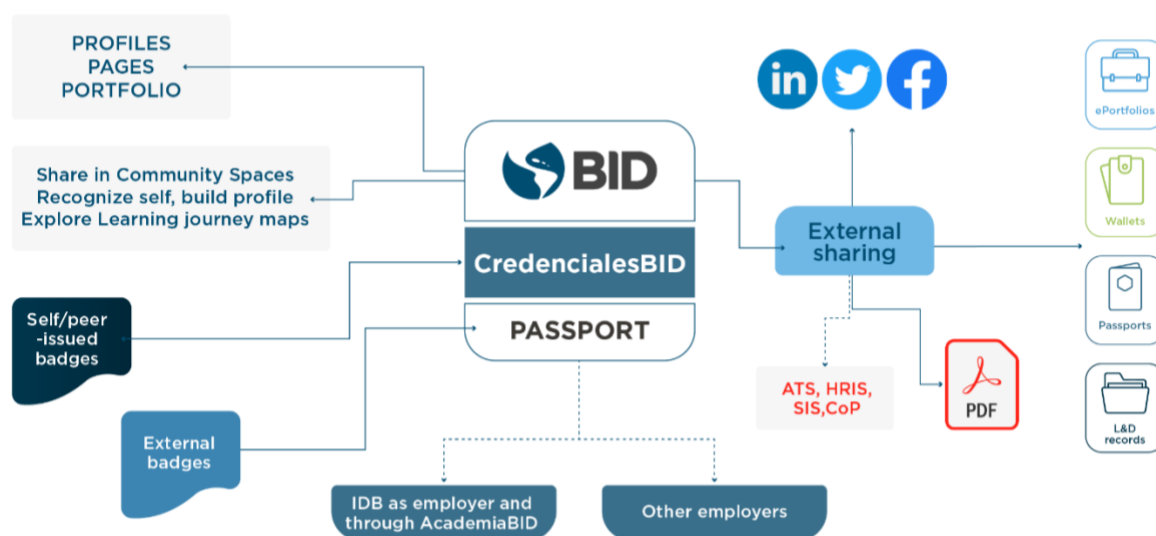
Source: compiled by the authors

The following illustration depicts in more detail the key aspects of the CredencialesBID Passport. Digital badge earners have the flexibility to accept their credentials in various formats, such as PDF certificates or sharing them directly on social media. However, we strongly

encourage them to build personal profiles and professional portfolios within the CredencialesBID Passport. This platform enables learners to socialize their accomplishments within the growing Passport community, connecting with other learners and organizations while discovering new learning journeys.

The Passport system is also able to acknowledge valuable badges earned from outside the IDB ecosystem, such as those from other INGOs and multilateral organizations, fostering a comprehensive and more inclusive learning environment. As the CredencialesBID Passport gains traction, IDB Group and other employers are increasingly leveraging these profiles for recruitment and team building purposes. With evolving technology, badges are now becoming more easily shareable across different Passports and wallets, paving the way for seamless interoperability with platforms such as applicant tracking systems and HR systems. This evolution of the digital credential ecosystem empowers learners to showcase their skills and experiences more effectively, facilitating better career opportunities and professional growth.

Figure 5. Credenciales BID Passport and its community



Source: compiled by the authors

Conclusion

As we envision the future, the Framework's rollout and maintenance will not only bolster the strategy of CredencialesBID but also elevate the overall profile of AcademiaBID and endorse the bank's role in developing the LAC region. The Framework serves as a guide for supporting organizations in issuing their own badges or utilizing third-party services.

We remain committed to partnering and leading collaborations with organizations and systems within the region and globally, both bilaterally and multilaterally. CredencialesBID will ensure interoperability with the external credentialing ecosystem, without compromising the integrity of its stakeholder-focused developments. Key areas of focus include:

- Adhering to credentialing and identity standards, such as evolving the Open Badges standard to align with the W3C Verifiable Credentials (VC) standard, facilitating compatibility with various types personal data records. This alignment enables the aggregation and exchange of records, including badges, through wallets and electronic portfolios, with self-sovereign identity as a vital component.
- Implementing technologies and practices to enhance the machine readability, discoverability, and actionability of digital credentials, through more intentional use of reference frameworks and linked data, linked data and the rapidly growing capabilities of natural language processing and artificial intelligence.
- Developing business processes and workforce development trends to support lifelong and lifewide learning.

Badge earners will need support in transitioning from passive recipients of instruction to active, autonomous lifelong learners who leverage badges to foster connections and socialized learning opportunities within communities. This transition encompasses peer-issued and self-issued badges.

Employers and other organizations evaluating or "consuming" badges for their skills needs will require guidance on utilizing badges as a currency of recognition—initially in terms of awareness and subsequently in practical terms that support their workflows and value creation strategies.

In conclusion, CredencialesBID has crafted a Digital Credentials Framework befitting its position as a multilateral leader in international development in the LAC region. Our approach is grounded in thorough research, extensive experience, ongoing attention to internal needs, and global ecosystem awareness. We are pleased to share this Framework under a Creative Commons attribution license for others to adapt as needed. We anticipate nurturing and enhancing this living document with our partners inside and outside IDB, as we continually learn and evolve within the international community of practice for digital credentials.

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